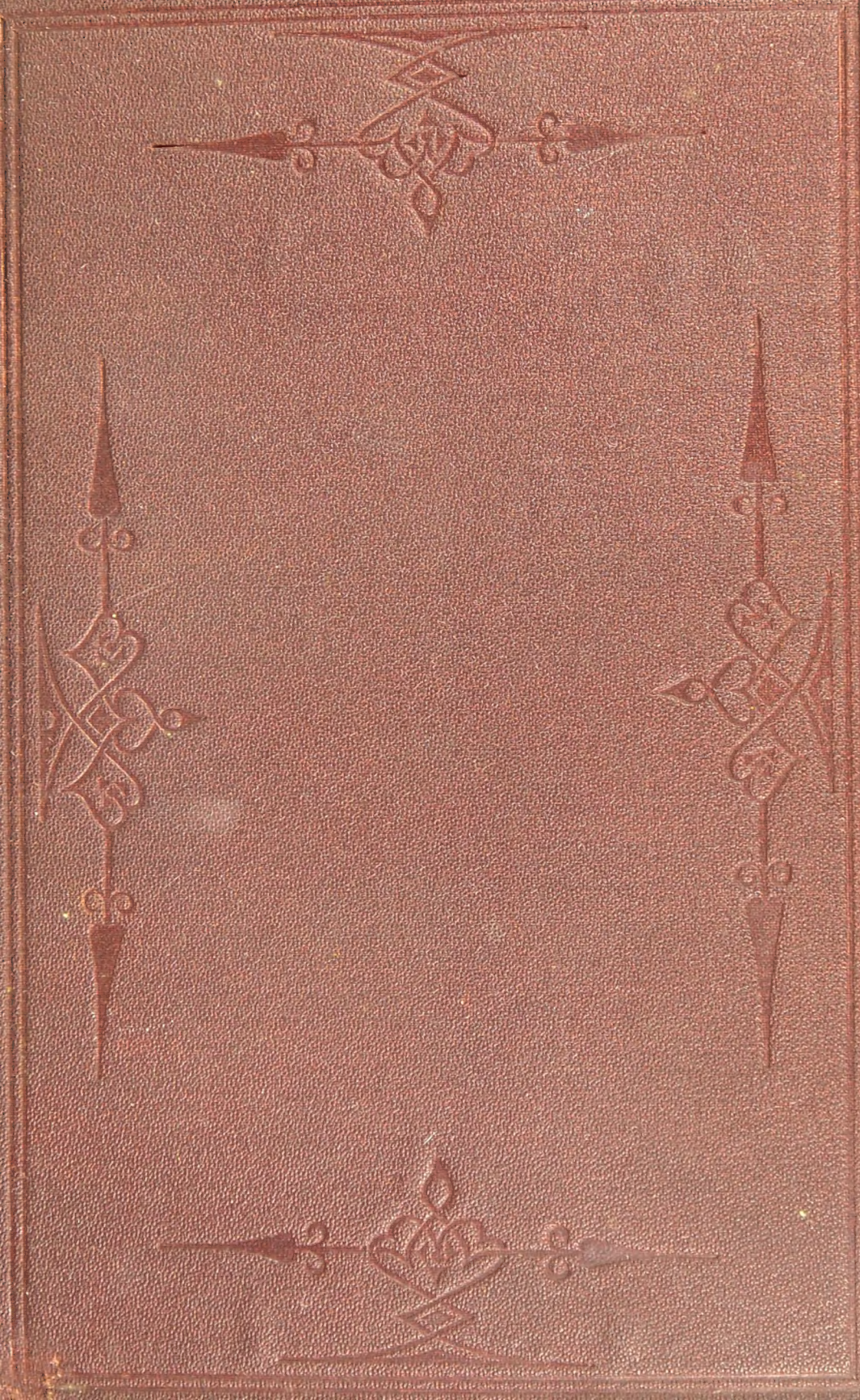




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PHRENOLOGY;

AND ITS APPLICATION TO

EDUCATION, INSANITY, AND PRISON DISCIPLINE.

BY

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"It is the harmony of a philosophy in itself which giveth it light and credence; whereas, if it be singled and broken, it will seem more foreign and dissonant."—BACON.

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PREFACE.

IN the following treatise will be found some novel features, which are of great moment, both in a physiological and psychological point of view. The author would particularly invite every one interested in the subject of education to scan closely what is said with respect to the faculty of *intellectual concentration*, and the erroneous and misleading opinions, in regard to it, which have, hitherto, swayed the ablest writers on Phrenology, as well as to what is said about the organs of Time, Order, and Eventuality, as guides to the proper mode of conducting the education of children. He would, also, refer the reader to the essay on Hope, as a separate fundamental power, the existence of which affords strong assurance of the reality of a future life. In furtherance of this there will be seen in the concluding essay, and elsewhere, palpable evidence to shew that this much neglected science is in complete harmony with the holy doctrines of the Christian Faith, and that it does not at all sanction the doctrine of Materialism and Fatalism; for, even in this, it is shewn to be in perfect accordance with the Parables of "Holy Writ."

He would, in the next place, refer to his views concerning the true function of the Cerebellum, and to the reasons

and facts adduced in disproof of its being possessed of any power at all in directing the action of the voluntary muscles, as some great anatomists and experimental physiologists have supposed; and that, therefore, it cannot be the seat of volition, as has been suggested. And he shews, moreover, that that same organ has no power of control over the involuntary movement of the internal organs of the body, upon the action of which vitality depends.

The true source of Volition has, he trusts, been pointed out by him, as well as the diversified channels, both mediate and immediate, through which its various mandates flow.

And, moreover, he is impressed with a strong conviction that he has found out the cerebral abode of *Consciousness*, and what it is that enables one to form a conception of the entity *Self*.

And did deep-thinking, learned Casuists but know the lucid materials, afforded by the palpable and unvarying evidences of the truth of Phrenology, they would not be led astray, as to the true nature and source of *Conscience*, or the *Moral Sense*, by the natural, overruling bias of their diversified individual idiosyncrasies.

The writer of this treatise trusts, therefore, that he is not exposing himself to the imputation of undue confidence when he presumes to expect that persons of unprejudiced minds, who, through a feeling of repugnance, have hitherto helped to keep Phrenology outside the pale of the legitimate sciences, will conscientiously feel the propriety and the necessity of giving it their best consideration, after having carefully weighed the vast number of examples he has brought forward in confirmation of its claims to a distinguished place in the inner Temple of the Positive Sciences.

There is one point connected with the printing of this

book which the author takes pleasure in mentioning, and that is—that the compositor's part was performed, at his own request, entirely by females. And it is but just to say that proof sheets demanding less correction could hardly emanate from the hands of skilful male compositors. The quickness and steadiness of these young women would be gratifying to those who wish to see the sphere of female usefulness extended.

With regard to the diagrams, the utmost reliance may be placed upon their scrupulous accuracy.

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THE DIAGRAMS AT THE END OF THE BOOK.

LIST OF DIAGRAMS

AT THE END OF THE BOOK.

- 1.—SIR W. SCOTT, WILLIAM GODWIN, Right Honourable W. HUSKISSON.
- 2.—J. B. RUSH, MARKWICK, Dr. DODD, GEORGE CRABBE.
- 3.—RICHARD CARLILE, LORD ELDON, JOHN ADOLPHUS.
- 4.—ROBERT OWEN, BELLINGHAM, TOM MOORE.
- 5.—HUMPHREY DUKE OF GLOUCESTER, EDWARD II., PATCH, GOSS, EUSTACHE, HINDOO WIDOW, MADAME GOTFRIED, MARGARET NICHOLSON.
- 6.—GIRL OF GENIUS, STUPID BOY.
- 7.—SESTINI (Improvisatore), MAUNIER (an Imbecile).
- 8.—LYDIARD (an artizan with large No. 3 and no power of Concentration), Captain LYDE (large No. 3), Captain LYDE'S BROTHER (small No. 3).
- 9.—IDIOT OF AMSTERDAM, MARLINE (Parricide), JOHN CLARE (Northamptonshire Poet), Dr. GALL, Drs. GALL and DODD, (Contrasted), Dr. SAMUEL JOHNSON.
- 10.—CANOVA, NAPOLEON I., COLERIDGE.
- 11.—R. B. SHERIDAN, ROBERT BURNS, WORDSWORTH, STEVENTON (the Murderer).

TABLE OF PHRENOLOGICAL ORGANS,

AND THEIR

NUMBER AS MARKED IN THE DIAGRAMS.

No.

- 1.—AMATIVENESS.
- 2.—PHILOPROGENITIVENESS.
- 3.—INHABITIVENESS.
- 4.—ADHESIVENESS.
- 5.—COMBATIVENESS.
- 6.—DESTRUCTIVENESS.
- 7.—SECRETIVENESS.
- 8.—ACQUISITIVENESS.
- 9.—CONSTRUCTIVENESS.
- 10.—SELF-ESTEEM.
- 11.—LOVE OF APPROBATION.
- 12.—CAUTIOUSNESS.
- 13.—BENEVOLENCE.
- 14.—VENERATION.
- 15.—FIRMNESS.
- 16.—CONSCIENTIOUSNESS.
- 17.—HOPE.
- 18.—MARVELLOUSNESS.

No.

- 19.—IDEALITY.
- 20.—WIT.
- 21.—IMITATION.
- 22.—INDIVIDUALITY.
- 23.—FORM.
- 24.—SIZE.
- 25.—WEIGHT.
- 26.—COLOUR.
- 27.—LOCALITY.
- 28.—NUMBER.
- 29.—ORDER.
- 30.—EVENTUALITY.
- 31.—TIME.
- 32.—MELODY OR TUNE.
- 33.—LANGUAGE.
- 34.—COMPARISON.
- 35.—CAUSALITY.
- 36.—ALIMENTIVENESS.

INTRODUCTION.

So intense was the desire at all periods of the world to find out the nature of the human mind, and the source of its various attributes, that mental philosophy formed a theme for the exercise of the talents of the wisest of the sages of antiquity. They considered it to be the most important subject for the contemplation of man. Some of the greatest men of modern times also have given special attention to the motives which govern our actions, and to the discovery of the source of our mental faculties. And the great ethic poet Pope has announced his conviction of its paramount importance in this fine verse:—

“The noblest study of mankind is man.”

But in proportion to the utility of correctly fathoming the secret springs of human actions was the difficulty of exploring the intricate windings of the labyrinth which leads to their approach. It was a thorough conviction of this difficulty that led Thales the Wise to say that the hardest thing was to know oneself.

That saying of Thales must fail, even now, to create any surprise, when we reflect upon the height to which he himself, Pythagoras, Democritus, and Aristotle had attained in the knowledge of the laws which regulate the physical sciences—especially that of the heavenly bodies, as compared with the vague, ill-defined notions

entertained by themselves, and by all the rest of the Greek philosophers, in regard to the connexion between the faculties of the mind and the organs of the body. In truth, they had no accurate notion of the physical agents by which the mind of man is enabled to gain a knowledge of substances and their qualities, and of events, with their antecedents and probable consequences. And they were equally in the dark as to the nature of the means used by the Creator for diversifying the human character. They knew not how it came to pass that Heraclitus was by natural instinct a purely speculative philosopher, and a desponding recluse; while Democritus was an able and willing administrator of state affairs, and an indefatigable investigator of the hidden forms of physical things, and of the intricacies of their combinations. "Democritus of Abdera," says Lord Bacon, "was a great philosopher, and, if ever any man amongst the Grecians, a true naturalist, a surveyor of many countries, but much more of nature; also a diligent searcher into experiments, and (as Aristotle objected against him) one that followed similitudes more than the laws of arguments."

Now, of all the researches of this great naturalist, none of them attracted the notice of the men of his time so much, perhaps, as his dissections of the human brain. To this practice he was led by a conviction that the brain was the seat of the soul, or mind. And, doubtless, a man of his superior penetration and sagacity could not fail to suspect that this abode of the mind must be composed of several compartments, each of which forms the residence of some special mental faculty.

Aristotle, who followed him, after a long interval of time, was also a great naturalist. He went so far, with regard to the constitution of the brain, as to divide

it into a few compartments, and assigned to each of them distinct functions. Nevertheless, it is quite evident that he understood not the means of discerning the cerebral features, which rendered reasoning by similitudes a marked characteristic of the mind of Democritus; nor those of his own head, which prompted him to use causality as a weapon of the most convincing efficacy in argument. Neither could he detect in the head of his master, Plato, those lineaments of development, beneath which lay the sources of the sublime and beautiful sentiments, upon which were formed the spiritualised imaginings of his glorious intellect.

But the seemingly tangled clue to this psychological mystery, which these greatest of ancient philosophers, even with the rich aid of Greek and Egyptian lore, failed to unravel, can with ease and certainty be disentangled by any one of moderate talents, who shall have given the requisite time, industriously and in good faith, to the connexion that exists between the faculties of the mind and the organs in the brain, according to the doctrine enunciated by Gall and his truly philosophic disciple and coadjutor Spurzheim. This is a fact, which the following treatise is meant to illustrate and confirm.

In more modern times men of exalted genius arose, who have shed enduring lustre upon their respective countries by their discoveries in the physical sciences. It was by the light which their genius cast through the haze that had for so long a period obscured the paths through which the planetary systems revolve that Copernicus, Kepler, Galileo, and Descartes, were enabled to point out the right road to future explorers of the wonders of the universe, and to clear the way for the discoveries of Newton.

Lord Bacon, too, that prodigy of nature, has taught us, with unique comprehensiveness of mind, the true mode of searching after knowledge. "We have," says he, "but one method of delivering our sentiments—namely, we must bring men to particulars, and their regular series and order, and they must for a while renounce their notions and begin to form an acquaintance with things." Again, he says, "For they seem to have followed only probable reasoning, and are hurried in a continued whirl of arguments, till by an indiscriminate licence of enquiry, they have enervated the strictness of investigation. But not one of them has been found of a disposition to dwell sufficiently on things themselves and experience." And here it is of special importance to take heed of what he says in regard to the "seats and domiciles" of the faculties of the mind.

"But the inquisition of this part is of great use, though it needeth, as Socrates said, a Dalian diver, being difficult and profound. But unto all this knowledge, *de communi vinculo*, of the concordances between the mind and the body, that part of inquiry is most necessary which considereth the seats and domiciles which the several faculties of the mind do take and occupate in the organs of the body, which knowledge hath been attempted, and is controverted, and deserveth to be much better inquired. For the opinion of Plato, who placed the understanding in the brain, animosity, which he did unfitly call anger (having a greater mixture with pride), in the heart, and concupiscence and sensuality in the liver, deserveth not to be despised, but much less to be allowed."

A difficult and profound subject this self-knowledge has been found to be. For though the examination of a living frog revealed to the penetrating glance of Harvey

the circulation of the blood, and Newton, from seeing an apple fall to the earth, is said to have discovered the natural law of gravitation, yet to neither of them were revealed the laws which govern the functions of the human mind. And the vague and contradictory opinions held by writers on mental philosophy in regard to the nature and number of the primitive faculties of the mind (and this their defective nomenclature sufficiently attests) afford additional testimony as to the difficulty of the subject. This was the necessary consequence of their methods of investigation. The ancient sages devoted their talents to inquiries respecting the formative process of the universe, the principle of life, and the nature of the soul. The more modern metaphysicians have given their attention to the process by which the mind acquires a knowledge of external objects, and the special attributes of the faculties through the instrumentality of which man is rendered capable of judging of the relationship subsisting between himself and surrounding things. But the foundation upon which they have raised their temple of philosophy being unsound, each of them was forced to leave his own superstructure in its incompleteness to be demolished by some subsequent projector, who, in his turn, had the mortification to find his own works thrown into the shade by the more lofty productions of another, whose reputation, for a season, soared alone in the ascendant. Nor are their failures to be wondered at, since they searched for knowledge in "the lesser worlds of their own minds, and not in the greater, or common world." "For the human mind," says Bacon, "resembles those uneven mirrors which impart their own properties to different objects, from which rays are emitted, and distort and disfigure them."

Notwithstanding these failures, much light has been thrown on the science of mind by metaphysicians; but from their acknowledged ignorance of “the *seats* and *domiciles*, which the several *faculties* of the *mind* do take and occupy in the *organs* of the *body*,” their speculations are incapable of giving to the moral and intellectual powers, according to the measure of their strength and to the endless variety of their combinations, such judicious direction as would serve to lead individuals to situations the best calculated to make them useful and happy members of society.

Their views were too much confined to generalities and abstractions. How could they, whilst they looked upon perception, memory, imagination, judgment, and will, as elementary faculties, and not as *modes of action* of the faculties, ever arrive at a knowledge of the diversities of talents and dispositions? Could they, for instance, by such a system of mental philosophy, have formed the remotest idea of the cause why Aristides was wise and just, and practically forgetful of the sufferings he endured from his fickle and ungrateful countrymen? Why, in the like circumstances, the great Marius was selfish, cruel, and vindictive? Whence arose those dispositions which rendered Nero and Caracalla monsters in human shape, whilst the piety, generosity, and wisdom of Antoninus Pius and Marcus Aurelius have gained for them the unalloyed admiration of the civilised world? Could they, upon their principles, divine the *source* of those faculties or dispositions which prompted Luther, though only an humble friar of the Augustine Order, not only to disobey the mandate of the Church of which he was a member, but also to endeavour to ruin its credit, and violently, though manfully and without disguise, to break into

fragments its long revered authority over the nations of Christendom; or account for the source of the sentiments which induced Fenelon, a dignitary of that Church, and also a man of noble lineage, to submit, without a murmur, to a sentence of condemnation, passed upon him for having supported theological opinions which were deemed to be too deeply imbued with transcendental spiritualism? Or could it be surmised by them or their followers why Homer and Dante were great poets? What were the causes of the superiority of Phidias and Appelles, of Michael Angelo and of Raphael, in painting and in sculpture—why Bacon was the greatest of philosophers, whilst his comparatively uneducated countryman and contemporary Shakspeare was the greatest of dramatic poets?—why Handel, Mozart, and Beethoven chose to enchant the world with music, whilst mathematics engaged the attention of Galileo and of Newton, and Locke exercised his great powers in an essay on the understanding? Surely there is no presumption in saying that their systems of mental philosophy were utterly incapable of affording a clue to knowledge so desirable, and, necessarily, so indispensable; especially in regard to the early discovery of individual peculiarities of talents and dispositions. They must have supposed that every one of these great men was, in an eminent degree, endowed with perception, memory, imagination, reason, and will; but yet, they could not form any idea of the immediate cause of those personal varieties of disposition and of talent which rendered it impossible for great painters to shine as equally great musicians, or mathematicians to charm mankind with poetry.

Yet there were men of great abilities who were inclined to think that persons, possessed of extraordinary talents,

were capable of excelling in any intellectual pursuit to which their *attention* might be directed. But, did the marvellous perceptive powers of Napoleon enable him to appreciate and remember harmonious musical combinations with the same degree of instinctive force with which he grasped the various incidents and political phenomena which the progress of society was constantly exhibiting, or with the ease and precision with which he could solve the most intricate arithmetical and geometrical calculations? Bourienne says that Napoleon had but little real taste for music. Neither did the great talents of Dr. Gall render him a lover or a judge of melody; and he was a very poor numerical calculator. Indeed, it may with certainty be averred that the comparative smallness of the organ of tune in Napoleon, and the absolute smallness of the organ of number in Gall, would render the frequent exercise of those faculties an irksome task to both of them.

Attention has been deemed a primitive mental faculty and the source of all knowledge, and certainly without *attention* no thorough and lasting knowledge of any subject can possibly be acquired. But a little reflection must convince any one that to give *attention* to any object of intellectual pursuit involves the necessity of a strong *desire* to become thoroughly acquainted with it. Now, as desire is the result of the action of any of the mental faculties, in a high state of activity, and as active faculties are always, as shall hereafter be proved, the result of organs which are comparatively *dominant* in each individual head, it is irrational to suppose that *voluntary attention* can ever emanate from an ill-developed organ. And, as to *compulsory attention*, it must be admitted that it has never yet been productive of *excellence* in any art or science; though the *habitual exercise*

of even weak faculties is sure to strengthen them, and will also, by *fostering the growth* of their respective organs, enhance their *industry*. But, notwithstanding these salutary results of compulsory attention, they fall far short of the fruitful consequences of that which is voluntary. Any one acquainted with the routine of schools must be aware of this. In schools that are strictly classical, for instance, the desire of approbation will urge a boy of good general abilities to devote his attention, often with marked ardour, to the Greek and Latin languages; but, if the faculty of language be intrinsically weak, as compared with some of his other powers, he will cease to exercise it when the occasion which demanded a display of its energies shall have been withdrawn; and voluntarily, ay even instinctively, will give his attention to subjects more congenial to the dominant bent of his faculties. In a word, voluntary attention is the necessary result of the presence of faculties, the organs of which are in a high state of development; and, on the contrary, whenever a faculty is very weak, owing to the smallness of its organ, it is an irksome task to fix the attention upon the subject which that faculty only is capable of appreciating.

A very remarkable instance of the undeniable truth of this law of the mind occurred in the person of Jedediah Buxton, a poor illiterate day-labourer. This simple man was, perhaps, the most wonderful genius in mental arithmetic that ever lived, and yet he was ignorant of the ordinary affairs of life. So exclusively active was the faculty of numbers in him that, on one occasion, while in London, being brought to see Garrick perform one of his great characters, instead of directing his undivided attention to the inimitable and captivating acting

of that superb player, his mind was directed solely to the *counting of the number of words* uttered by Garrick during the play. For, on being asked how he liked the actor, he replied that he had spoken a certain number of words during the performance, and he stated the number with the greatest exactness.

One other example, confirmatory of the correctness of the view which has just been expressed, regarding the true basis of *attention*, will not, I am sure, prove uninteresting. Richard Roberts Jones, a sawyer by trade, and by birth a Welchman, was a prodigy, as a self-taught linguist. He knew from sixteen to twenty languages, without having received instruction from any one. Yet this poor man could not be induced to give the slightest *attention* to the common occurrences of life, and seemed by his habits to be utterly incapable of taking care of himself. Mr. Roscoe, of Liverpool, who did every thing for his comfort that the warmest benevolence could suggest, published an interesting account of this extraordinary man. When the organ of *Eventuality* comes to be considered, the inattention of these two men to passing events will be clearly accounted for.

Enough has been said to show that the possession of one or two faculties, in an eminent degree, does not of necessity enable an individual to be successful in any calling to which circumstances may induce or compel him to direct his *attention*.

Some distinguished writers on the mind have attempted to maintain that *habit* and *education* were principally the inciters of individuals in the choice of their pursuits; and, further, it has been asserted that they are the source of some, at least, of our mental faculties. But, as habit implies exercise, and *exercise implies the pre-existence* of the

thing to be exercised, it follows that habit is the *effect* of the presence of a faculty and not its *precursor*. Neither is education the cause of our faculties. Education is the drawing out of faculties that are already in existence. It *develops* and *strengthens* the faculties but cannot *originate* any.

Yet nothing, indeed, can be truer than the assertion that education and habit have much influence in directing young persons in the choice of their pursuits: and, for this reason, the judicious educator should be careful to learn, at an early period, the dominant moral and intellectual attributes of his pupils. Supported by this knowledge, he will be able to point out the field in which their talents may be used profitably, and without irksomeness to themselves. How often, in the absence of such information, have talents been fatally misdirected. Yet many men, who were incapable of soaring above mediocrity in those callings, which education and habit, and the prejudice of parents, had prescribed for them, have gained high reputations by discoveries in science and art, when proper opportunities for the exercise of their predominant faculties were presented to their minds! One notable instance of this it may be interesting to state. The repugnance of Handel's father to his child's indulgence in his passion for music is well known. But nothing could repress the infant's ardour in pursuit of that charming art. To escape his father's vigilance he contrived to conceal a clavichord in a garret, where he used to play when the family had retired to rest.

The following case is even more to the point than the foregoing. The father of the renowned astronomer Sir William Herschel took great pains to render his son an accomplished musician. But although the youth was

enthusiastically fond of music, and endeavoured, with unremitting ardour, to attain to excellence in that art, yet he is not now spoken of in connection with music, whilst his fame is scarcely inferior to any man's in astronomy, to which his *attention* was called by a natural *instinct*, which prompted him, even at a late period of life, to the practical investigation of the phenomena of that noble science whatever hours he could spare from his professional musical avocations.

Such undeniable facts as these are fully capable of setting aside for ever the shortsighted theory, which attributes the origin of our faculties, or even the capability of rendering them efficient, in every case to *education* and *habit*.

The promulgation of such untenable opinions by men of superior intellectual endowments would certainly be a matter to wonder at, did we not feel thoroughly assured, through Gall's discovery of the true seats of the mental faculties, that their erroneous notions regarding the inherent qualities of the living recipient of impressions of external things and facts were the cause of their mistake; for, whilst they looked upon the brain, or the "sensorium," as being merely, as it were, a "sheet of blank paper" upon which all things external are *indiscriminately* stamped, it would naturally follow that education and experience should be deemed to be necessary even to the existence of the intellectual faculties. But it is obvious, according to their views, that this sheet of blank paper can be no more than a *passive* recipient of information, conveyed by the external senses, and is consequently unfit, by any active inherent power of its own, to seek for some objects of study to the absolute exclusion of others. But, surely, even the few instances that have been already adduced

will be deemed amply sufficient evidence to show that the sensorium, or brain, is intrinsically an active instrument, composed of various parts, each of which is possessed of a certain kind of power peculiar to itself, which it exclusively seeks to gratify.

Such was the state of obscurity in which mental science was doomed to remain until towards the close of the last century, when it emerged from the gloom in which it had been shrouded for so many ages. This prospect was not opened for our contemplation by any of those who had spent their lives in fruitless efforts to clear away the mists which dimmed their mental vision; but had its origin in the observation of a mere schoolboy, whose singularly perspicacious and inquiring mind prompted him to seek for the *cause* why the boy who held the first place for proficiency in languages was unable to cope with others in mathematics; and why another, who displayed vast capacity for grasping the facts of natural history, made but a poor figure in original composition; why one excelled in music and another in drawing; and from what cause proceeded his own inability to find his way to places where he had often been, while one of his playmates, who was, intellectually, much his inferior in every respect, was in the habit of piloting him, and was never known to go astray. Having noticed a marked prominence of the eyes in those who were endowed with a quick perception and a retentive memory of words, and observing the same peculiarity in the young men who gained the highest prizes at the University for proficiency in languages, he was led by his *inherent, untutored* sagacity to suspect that there might be some natural connection between the external symbol and the presence of the faculty. He now seized every available opportunity to observe the forms of

the heads of individuals remarkable for any particular talent or disposition ; and took plaster casts of some of them. These he examined with the minutest attention, but, at first, with little satisfaction ; for, having compared the masks of eminent musical composers, he found that they differed widely in regard to their general conformation. But, after repeated trials, he at length discovered, to his great delight, that each of them was characterised by a marked protuberance a little above the angle of the eyebrow. This extraordinary individual was François Joseph Gall. He was born at Tienfenbrun, a village in the grand duchy of Baden, on March 9, 1758. But, though his precocious spirit of inquiry into the probable cause of the manifestation of the mental faculties gave some slight scintillations of its presence as early as the year 1769, it was not till the year 1798 that the first written notice of his discoveries appeared in a familiar letter to his friend, Baron Retzer ; although he had given lectures on the subject at Vienna two years before that date.

During that long interval he was indefatigable in the accumulating of facts, which have since been acknowledged by men of superior intellects to be unerringly confirmatory of the coincidence of peculiar configurations of the head and certain animal propensities, moral sentiments, and intellectual faculties. As yet, however, Gall was a stranger to the true *structure* of the brain ; though he knew that its external *form* was fairly represented by the skull. But having met with a woman, fifty-four years old, with water on the brain, who, nevertheless, possessed an active and intelligent mind, he at once conceived the idea that the intimate structure of that organ was not what anatomists had supposed it to be. From that time

he gave much attention to the dissection of the brain. In this course he was followed and mainly assisted by his pupil and fellow-labourer Spurzheim, whose skill and singular adroitness in undoing the complicated foldings of that exquisitely delicate organ was considered by that experienced and able anatomist, the late Mr. Tuson, to surpass that of Gall himself. Dr. Macartney, of Trinity College, Dublin, used to say, at lecture, that Spurzheim's dexterity in dissecting the brain was inimitable, and that his method was the only true one.

The result of these labours was a work published in four volumes quarto, on the anatomy of the nervous system in general, and of the brain in particular, including the *functions* of the brain and of each of its parts.

But though the labours of Spurzheim entitle him to the gratitude and admiration of those who are thoroughly convinced of the truth of the science, to the promulgation of which he devoted his life, still he cannot be placed on so lofty a pedestal as Gall; for, had the latter never existed, it is not at all likely that we should have heard of the true functions of the brain. Gall was the discoverer of this science, Spurzheim, in some respects, the improver. Gall laid the foundation of the philosophic edifice, and by his genius and perseverance nearly completed the superstructure; to Spurzheim should be awarded the merit of having arranged with greater precision each compartment, and also of having added something which was indispensable to the perfect symmetry of the whole. It is to him we are indebted, also, for its introduction into this country, where he caused it to take root, in spite of the efforts of men of great talents, some as anatomists, others as metaphysicians, some as divines, others as critics, to crase, utterly and

irretrievably, from the category of the sciences this, which is, in the opinion of eminent philosophers, the noblest of them all. The qualifications of those antagonists for driving this onslaught to a successful termination may be inferred from the candid acknowledgment of one of the ablest of them, namely, that "*as yet, indeed, he had little time to study the subject.*" At the same time, some men of enlightened minds, *after having studied its evidences*, felt the necessity of acquiescing in the truth of its principles; and amongst them Dr. Vimont, of Caen, is a striking example. This able physician was, at first, a decided opponent of Gall's doctrine, and, with the view of proving its utter groundlessness, spent many years in observing the habits of animals, and in examining closely how far the forms of their brains bore any accordance with their instincts. And what was the issue? A splendid work, containing fine lithographic prints of the skulls and brains of animals, amounting to a vast number of instances, which confirm, beyond a doubt, the accordance of the mental attributes of animals with the forms of their skulls.

In the list of those champions of truth, the name of the able, benevolent, unassuming George Combe stands first among the foremost; with his high-minded, philosophic brother, Dr. A. Combe, by his side. In America, Dr. Charles Caldwell overwhelmed all its defamers in a style the most vigorous, animated, argumentative, and convincing. Mariano Cubi-y-Soler, an admirable linguist, and one of the most eloquent lecturers I have ever heard on any subject, may well be called the apostle of Phrenology in Spain, where he had to fight the battle of truth single-handed, when cited before the legal tribunals. But, after a series of perilous contests,

he came off victorious. In France, Broussais, a renowned physician, called the attention of men of science to Gall's doctrine in a long and elaborate course of eloquent lectures, confirmatory of its unerring truthfulness. Corvisart, whom Napoleon called the only infallible physician he had ever known, was, to use the emperor's words, "a great abettor of Gall." And in his latter days Cuvier himself gave signs of his leaning to a recognition of the truthfulness of the fundamental principles of Phrenology. The mentioning of an interesting fact illustrative of this change in the opinion of that great naturalist will not be deemed irrelevant here. When Gall was on the point of dying Cuvier sent him a scull, accompanied by a kind message, saying he thought it bore evidence of the correctness of his doctrine respecting the functions of the brain. But Gall sent back the scull with the following message: "Tell Cuvier that to complete my collection there is now only one object wanting, and that is my own scull; which, it is obvious, will, in a very little time, form a portion of it." It is evident that the manly, independent, and singularly conscientious spirit of Gall was then smarting under the conviction that the progress of his great discovery, which he knew was calculated to hasten the advent of human happiness, had been retarded by the undue importance awarded by Cuvier to the unstable notions, regarding the functions of the brain, which were the result of mutilating experiments upon the brains of animals; and by his studiously holding himself aloof at a time when even his listening with equal attention to what Gall had to show might serve to conquer the hostile prejudice of Napoleon, who said, according to Las Casas, "I have greatly contributed to put down Gall."

And to Dr. Antomarchi he said, "Corvisart was a great partisan of Gall; he praised him, protected him, and left no stone unturned to push him on to me, but there was no sympathy between us." But, when Napoleon's reasons for his aversion to Gall's doctrine come to be considered, the unstable ground upon which he rests them must appear obvious to every one. He says, "Nature does not reveal herself by external forms. She hides and does not expose her secrets. To pretend to seize and to penetrate human character, by so slight an index, is the part of a dupe or of an impostor. The only way of knowing our fellow creatures is to see them, to associate with them frequently, and to submit them to proof. We must study them long, if we wish not to be mistaken; we must judge of them by their actions; and even this rule is not infallible, and must be restricted to the moment when they act. . . . It is not," he says, "that I pretend to exclude the influence of natural dispositions and education; I think, on the contrary, that it is immense; but beyond that, all is system, all is nonsense." Here it is obvious that the great intellect of Napoleon was altogether in the dark with regard to the true source of those diversified tempers of mind which were constantly presenting themselves in action to his commanding powers of conception as to peculiarities of character.

Again he says to Las Casas—"He," meaning Corvisart, "and his fellows had a strong leaning to materialism; it would increase their science and their domain. But Nature is not so poor; if she was rude enough to announce her meaning by external forms, we should soon attain our ends, and we should be more learned. Her secrets are finer, more delicate, and more fugitive—hitherto they have escaped every one. A little hunch-

back is a great genius ; a tall and handsome man is often a great ninny ; a large head, with a big brain, sometimes has not an idea, while a little brain is often in possession of vast intelligence. And yet think of the imbecility of Gall ; he attributes to certain bumps, dispositions and crimes which are not in nature, and which take their rise from the conventional arrangements of society. What would become of the bump of thieving, if there was no property ? of that of ambition if man did not live in society ? ” But there does exist such a thing as property, and there naturally exists a “ bump of thieving,” as he calls it, which prompts us to seek for property, and to take care of it. In like manner society exists as the necessary result of the promptings of independent primitive social instincts. And the state called society affords scope for the exercise of the “ bump of ambition,” which, according to Dr. Antomarchi, was a leading feature of Napoleon’s own head. But, as it is certain that, unlike Napoleon, some men are never inclined to rule over their fellows, and little desirous of outstripping them in the race for fame, and as all rational people live in society, it cannot be that ambition was at first engendered in the womb of society. On the contrary, its germ was implanted by the fiat of the Almighty Creator of all things in the human brain, before any owner of that brain could have learned to comprehend and appreciate the charms and the benefits of society. Society is only the foster-mother of ambition. With regard to the tangible facts adduced by this great man as instances subversive of Gall’s doctrine, it may be averred, with the utmost confidence, that it is to it, and to it only is due a thorough solution of the true bearing of those facts. Why, for instance, may a “ little hunchback ” exhibit

great genius, while a tall and handsome man is often a great ninny? Gall could say with truth, and distinctly indicate, that the genius possessed a head of noble configuration, while the inferior form of the ninny's denoted his intellectual incapacity and the general want of vigour of his mind. Had Napoleon seen the capacious and finely-formed head of the late Mr. Douglas, who was the southern candidate for the Presidentship of the United States, in opposition to the lamented Abraham Lincoln, and could analyse it according to the natural laws enunciated by Gall, he would have at once seen the immediate source of that distinguished man's oratory, and of his exalted position as a statesman, notwithstanding the singular smallness and the want of symmetry of his figure, which, it would seem, did not reach much above the waist of his illustrious, but less intellectually gifted, opponent. And as to the oft-recurring mental superiority of persons with small heads, and the stupidity of others with very large ones, it may be averred that Phrenology alone affords the means of demonstrating, with certainty, the cause of this seeming anomaly in the nature of things, as shall be by-and-bye clearly proved; and it will also be shown that Phrenology is as justly free from giving encouragement to the doctrine of materialism, in the light it seemed to be viewed by Napoleon, than the Christian doctrine itself.

It is quite obvious, then, judging by Napoleon's reported reasons for repudiating Gall's doctrines, that he was entirely ignorant of their nature and true bearing, and was, therefore, no more a competent witness of their intrinsic value than the humblest member of society. He used his influence, nevertheless, to extinguish them. For Gall says, "At his (Napoleon's) return to Paris, from

Germany, he scolded sharply those members of the Institute who had shown themselves enthusiastic about my new demonstrations. This was the thunder of Jupiter overcoming the pigmies. Immediately my discoveries became nothing but reveries, charlatanism, and absurdities; and the journals were used as instruments for throwing ridicule—an all-powerful weapon in France—on the self-constituted bumps." Yet, notwithstanding all this, "the anatomy and physiology of the brain," says Gall, "discovered by the German doctor, subsist and will subsist in spite of the efforts of Napoleon, and of his imitators, and of all their auxiliary forces." And, as this prediction has actually been verified, it is pleasing to learn Napoleon's opinion of the results that would naturally flow from such a consummation. For he says, as has been already noted, "that if Nature was rude enough to announce her meaning by external forms, we should soon attain our ends, and we should be more learned." (See Plate 10.)

It may be interesting to state here that the plaster cast of Napoleon himself, taken some hours after death had put an end to his sorrows, exhibits positive organic indications of the mighty intellect, which for so many years swayed the destinies of nearly the whole of Europe. (See Plate 10.)

It is not with the view of gaining fresh supporters of this—the only consistent physiology of the brain, and the only system of mental philosophy which is, in the least degree, capable of affording a clue by which mankind may be led, through the labyrinthine paths of life, to the fields best suited to the cultivation and the growth of their dominant intellectual and moral instincts, as well as to the suppression of such affections as might, by

their superior energies, enervate and render practically abortive the efforts of the noblest attributes of our nature to acquire knowledge and wisdom—it is not with this intention that these great authorities have been cited; for, in the study of nature, no one can ever expect to gain real knowledge if he lean exclusively upon either the writings or the oral pleadings of others; no matter how accomplished those teachers may be. On the contrary, he must go to nature, in order to become acquainted with things; *he must accumulate facts*, and repeatedly strive to learn their abstract nature, what their bearings are upon one another, and what the results of their associated action. It is in this way only that the true nature of each individual faculty of the mind can be comprehended, and in no other way than this could the fact of the brain being composed of a congeries of organs, each of which is subservient to the manifestation of a special mental faculty, and to that only, be established as a fundamental law of nature.

The object of the following treatise is to show by *facts*, which no amount of sophistical cavilling can possibly deny, that this fundamental law of nature is based on principles created by the God of nature for the enlightenment of those who in a spirit of candour and truthfulness devote themselves, heart and soul, to the discovery of those facts.

To facilitate the course of those who are led by the inherent constitution of their minds to *ignore conjectural*, and *cling to positive*, knowledge, there is not one of the purely physical sciences capable of affording so wide, and so varied, and so interesting a field for inquiry as the one that we are now discussing. In the pinching cold of a winter's night, the astronomer, wrapped up

in warm garments, is obliged to resort to his observatory on the chilly house-top, as the fittest place for surveying the planetary systems. The chymist, confined in his close laboratory, must endure the scorching heat of the furnace, while, bent over the crucible, he watches the evolution of the elementary particles of things. On the contrary, how wide and various are the channels through which the Phrenologist derives his facts. In society, whichever way he turns, they are constantly being presented for his contemplation. Besides, there is not a city or town of any note that does not contain a collection of authentic casts of well-known persons; and, up to the year 1853, the gallery of Mr. De Ville, in London, contained the largest and most valuable phrenological collection in the world of casts and skulls of men and women remarkable for the greatness of their talents, or the peculiarities of their dispositions; including above three hundred busts, both antique and modern, of the most renowned men the world has ever seen. The whole number amounted at least to three thousand. About two thousand skulls of animals of every denomination were also to be found there. There could be seen the form of head which accompanied the *poetical instincts* and high moral aspirations of the poor peasant boy, John Clare; and how strikingly dissimilar it was in its most marked characteristics to the head of George Stevenson, one of the most original of *mechanical* geniuses. Both were self-taught, but one was intensely *active*, the other *cogitative*. The mind of Clare was constantly engaged in poetical musings upon the moral affections, their pains and their pleasures; that of Stevenson was drawn by an inherent impulse to physical objects, and perseveringly devoted to the discovery of such mechanical combinations of them,

as might be of lasting benefit to society. There might be pointed out the cause of the difference of style which characterised the oratory of Mansfield and of Erskine, of Canning and of Brougham: and that which constituted the elements of mind and their combinations, which raised Edmund Burke, as a prescient statesman, to a height such as neither Pitt, nor Fox, nor even Chatham was capable of reaching. There might be seen in Banks' fine bust of him, the cause why Warren Hastings, though he was endowed with many good qualities which endeared him to his friends, was, nevertheless, covetous, self-willed, domineering, unjust, and, in some instances, pitiless, as Governor-General of India. What a contrast to this did the bust of the Marquis of Wellesley, by Nollekens, present. Not only did it indicate that the disposition of that distinguished statesman was unimbued with the slightest tincture of hypocrisy, avarice, or the love of self-willed domination; but, on the contrary, it was phrenologically symbolic of an instinctive carelessness in regard to his own pecuniary interests, a disposition which in his case, perhaps, amounted to a fault, and which his intellect, capacious of great things, and comparatively heedless of whatever is little, was ill-calculated to redress. There might be seen in Behnes Burlowe's bust of MacIntosh indications of the vastness of his intellect, and the unobtrusive gentleness of his disposition; whilst Chantrey's exquisite bust of Lord Castlereagh afforded marked indications of his having been endowed with courage the most heroic, unalloyed by the slightest tinge of compectional fear, and with an intellect well balanced, devising, and industrious, but certainly narrow in its range as compared with that of Sir J. MacIntosh. There, too, might be seen the true physical indications of the imper-

turbable coolness of Castlereagh, and of the sensitiveness and warm susceptibility of Canning.

Amongst the skulls of birds how readily could the practised observer distinguish the skull of the tuneful, melodious canary from that of the chirping, inharmonious sparrow. Nor could he fail to mark the constant difference between the form of the head of the song thrush and that of the jackdaw; or to discern how the cuckoo's head is hollow where the organ of the love of offspring is located, whilst the same part presents a striking protuberance in the partridge. In the dolphin, the porpoise, the seal, and many other animals, the male could there be distinguished from the female by the form of the back part of the skull, where the same organ lies. Nor could any one fail to mark the form of head that is the invariable, and evidently indispensable, concomitant of the ferocious and sanguinary temper of the tiger, as well as the strong contrast which it presents to the skull of the wild but gentle gazelle. How superior also the elevated brain of the poodle dog, when compared with that of the indocile, snarling cur! Thus in animals of the same species the most marked disparity of form is easily discernible, on comparing the skulls of such as are docile and gentle, with those of the dull and intractable. The elevation of the one and the depression of the other are obvious.

In an ethnological point of view that collection was very valuable. What a striking contrast was presented there by the rounded form of the skull of the fierce, indomitable American Indian, who is so averse to intercourse with strangers, and the rather narrow, elongated head of the indolent negro, who is devoted to social enjoyments. How wide was the difference between the head of the Sandwich Islander or of the Tahitian and that

of the Australian or the Tasmanian. How much superior to either of them were the heads of the civilised Incas of Peru, which had not been submitted to the distorting process of artificial compression. Neither could the wide disparity between the Maori and the Gentoo escape the notice of the most careless observer. And how immeasurably inferior in form were they all to the noble head, which is the issue of the mingling of the Celtic, Saxon, and Norman races (imbued with an infusion of old Roman blood), such as it is found to be in these islands, and in the United States.

Perhaps it may not be considered out of place if I relate a circumstance of considerable interest to those who make it a point to make strict inquiry as to the amount of knowledge which certain races are capable of imbibing.

Some twenty years ago and more, when the great anatomist, Tiedemann, was in London, he paid a visit to De Ville's Phrenological Museum. I saw him as he entered the place. He was erect and tall, with an air somewhat stately, yet perfectly unassuming. His head was not so remarkable for great size as for its fine symmetry, and the organs of the moral and intellectual portions of it were in a rare degree harmoniously blended. It was the characteristic head of a curious, indefatigable, conscientious inquirer into the *arcana* of physical things—one who was not given to indulge in unprofitable, visionary speculations. His visit to De Ville being strictly private, there was no opportunity afforded me of hearing his remarks. But, afterwards, it was told me by De Ville himself, that Tiedemann supposed (and in this he resembled all other opponents of Phrenology) that because he had tested the capacity of a great many

negro and European skulls, by filling them with millet seed, and found that, on an average, those of the Africans were scarcely inferior in size to the skulls of Europeans—that from that fact he thought it probable that the negro, if placed in advantageous circumstances, ought to be capable of exhibiting powers of mind equal to the European.

But when the humble, self-educated follower of Gall demonstrated to this celebrated physiologist and anatomist that the *forehead* of the negro is *usually* much smaller than that of the European, and that, moreover, its form, with few exceptions, is irregular and ill-balanced; and when he showed that the size of the negro skull in the basilar portion, where the organs of the affections (which we possess in common with the lower animals) lie, was, in proportion to the upper and anterior parts, which are the seats of the moral and intellectual faculties, larger in the negro than in the European—when De Ville showed, by many instances, that this is always and infallibly the case (with the exception of the heads of criminals), Tiedemann raised his hands and said, “The labour of years is now, I clearly see, of no use to me; and I must destroy many valuable things bearing upon this theme.” Thus, by following the *true* mode of investigating this department of natural history, was an uneducated man, of good talents, enabled to correct a mistake in anatomy and physiology committed by one of the ablest anatomists that Europe has given birth to.

For the long term of twenty-two years the writer of this treatise took every opportunity, afforded him by the kindness of its generous owner, to study the contents of this rare collection; and, after having studied it with assiduous care, he is bound to say that out of the

hundred thousand facts which it contained, not one could be pointed out that did not testify to the never-failing agreement of particular parts or organs of the brain with certain independent, elementary faculties, according to the laws discovered by Gall.

It is with the view of demonstrating the stability and unchangeableness of those laws that the composition of this treatise has been undertaken; in order to excite in its regard such a degree of attention as will tend to awaken it from the state of inauspicious somnolency in which it has for some years lain prostrate. But, strongly impressed with a conviction of the importance of the subject, and fully alive to the difficulty of treating it, the writer cannot help being crossed by fears for the success of this attempt. Relying, however, upon the solidity of the foundation upon which his subject rests, and surveying the vast store of accumulated materials which have, for more than thirty years, been constantly passing through his hands, and the facts which are now strewn before him in whatever society he may be placed, he would fain hope that even his humble abilities will enable him to make such a selection of incontrovertible facts as will place beyond a doubt the possibility of determining the innate talents and dispositions of any one by making a skilful survey of the head; and, should he succeed in merely raising a more general spirit of active inquiry in regard to the nature of the evidence adduced, and the deductions drawn from it by phrenologists, than at present exists, he will have reaped a fair reward for his efforts, for he has long been thoroughly convinced that a strict and faithful examination of the facts which bear upon the case is alone requisite for converting the incredulous scoffer into the zealous advocate.

It may be well, even here, to advert to its undeniable superiority over all other systems of mental philosophy, in regard to the materials it affords for the accurate analysis of the faculties. Even opponents cannot help admitting that it illumines with the noon-day brightness of reality the uncertain twilight by which the speculations of metaphysicians had for ages been obscured. But how trifling does even that great advantage seem when it is compared with its great practical usefulness; for, in the event of its becoming generally studied, its truthfulness cannot fail to impart a conviction of the advantages which society will reap from a careful and enlightened application of the principles of Phrenology to the various purposes of life.

Hereafter, when Phrenology shall be acknowledged by all to be a science founded upon a practical observance of the true principles of induction, what happy results are sure to follow from the proper application of its laws, for the purpose of finding out at once the distinctive talents and dispositions of any child that may be entrusted to the care of a teacher! The educator of high mental endowments, but ignorant of the practical bearings of this science, can form no adequate notion of the happiness he would be enabled to confer upon his pupils through its means. He would see the injudiciousness of confining for several years to the study of the dead languages a youth whose moderate capacity for acquiring a knowledge of them rendered their study an irksome labour, which nothing but compulsion could induce him to undergo; whilst, at the same time, the rich germ of genius for natural history in the same boy is kept under restraint at the most impressible time of life, when, by judicious training, it might be made to bloom in all the perfection

which nature intended it to wear. Again, the mathematical teacher will call the boy a dunce who displays no talent for geometry, but who might be capable, nevertheless, of becoming an ornament to literature or the fine arts, if his instructors had the power of discerning in time the field where his peculiar talents might be exercised and disciplined to most advantage. How often have parents had to bewail the precious time that had been misspent in this way, and the sums of money lavished in the vain hope of seeing a beloved child, at some future day, become eminent in the profession they have chosen for him. But it is not in the misdirection of the *intellectual* faculties that the paramount mischief lies. It is the injury to which the *moral* nature is subjected, by pursuing such a course, which renders it imperative on parents and tutors to endeavour to obtain, as early as possible, a thorough knowledge of the moral and intellectual aptitudes of children.

Let us, for instance, picture to ourselves a high-minded, generous youth, ambitious of distinction, being subjected to the taunts and harsh treatment of the guardian of his education, because of his inability to master some branch of literature or science which is deemed indispensable to the completion of his studies. What anguish will he not suffer when openly accused of wilful idleness, or, of that which may be even more wounding to his self-respect, mental imbecility! Whereas, if his talents had been judiciously evolved, he might become an ornament to society, and, may be, the benefactor of his species. Numerous instances might be adduced in proof of the soundness of this opinion, but it will be enough to remind the reader that Swift and Goldsmith were strikingly unsuccessful at college, especially in mathematics; and

that John Hunter was incapable of shining as a classical scholar. Had the latter been doomed to exhaust his strong intellect and untiring industry in the daily exercise of the occupation at first allotted to him, he might probably have become an excellent artisan, but the great anatomist and physiologist would be lost to the world.

If we weigh but for a moment the ill effects of compelling young persons to spend their time in studying any subject for which they possess but slight capacity, and of the injustice of punishing them for want of proper industry in the pursuit of it, it must be obvious that by such an irrational procedure there is set an example of tyrannical hard-heartedness at a time of life when the minds of those entrusted to the care of teachers are most susceptible of indelible impressions. And thus is produced an estrangement, amounting in many cases to a feeling bordering on aversion, between master and scholar, whose great aim it should be mutually to cultivate the sweet and ennobling sentiments of reverence and love. Hence the temper becomes soured, and the unsocial passions by degrees assume a mastery over the charming sentiment of benevolence, within the silken bonds of which all the other attributes of our nature should be everlastingly intertwined. Indeed, it should be carefully borne in mind that, whenever we attempt to maintain authority by habitually exciting fear in the minds of our pupils, we are unwittingly laying the foundation of duplicity and distrust, until at length that salutary caution, which is the instinctive parent of circumspection, forms an unhallowed alliance with deceit.

How important it is, therefore, for teachers to acquire an early knowledge of the dispositions and talents of their pupils; and what a blessing it is to know that such

knowledge may be attained, even in the first meeting, by any one possessing competent skill as a practical phrenologist. That such is the fact will, it is hoped, be clearly established, even to demonstration, in the course of the following treatise.

PHRENOLOGY AND ITS EVIDENCES.

PHRENOLOGY may truly be looked upon as a science that consists of countless, unvarying facts concerning mind, upon which general principles have been incontrovertibly established. But it is not the nature of the mind itself with which students of this new system of mental philosophy have to deal. Of the mind's essence man cannot ever attain to any knowledge. That is entirely out of the sphere of his understanding. Yet he is impelled to have implicit faith in its separate existence by a powerful, persuasive, and consoling internal monitor, which is not of the understanding. It is the faculties of the mind and the physical agent, which is found to be absolutely indispensable to their manifestation, that lie within the wide scope of phrenological enquiry.

This science rests on three fundamental principles. The first of these is that the brain is the true and sole organ of the mind. The second principle is that the brain consists of a congeries of organs, each of which is the seat of some special faculty of the mind. And the third—that size of brain is a criterion whereby the measure of mental power may be duly appreciated, all other conditions being equal (see Plate 9).

That the mind cannot manifest its faculties in this life without a brain is clearly demonstrable. A heavy blow

on the head in an instant deprives a man of consciousness. Too great a quantity of spirituous liquors taken into the stomach directly affects the brain, by means of the great pneumogastric nerve, and thus causes for a time the suspension of sense and reason. The delirium of fever is the result of a too abundant distribution of blood through this, the most complicated and delicate in structure of all the bodily organs. Long continued and excessive mental labour often destroys the constitution of the brain. Have not the vast intellectual and moral energies of O'Connell, and the fertile genius of Walter Scott, faded away under the influence of softening of the brain? To the same cause is to be assigned the loss of memory and general weakness of intellect which clouded the last years of the life of that most exquisite of all lyric poets, Thomas Moore. It was the enfeebling influence of fourscore years and ten that reduced to a state of comparative childishness the "huge mind" of William Cunningham Plunket—an orator, not only of the first class, but, in the opinion of the best judges of oratory, the greatest of all his cotemporaries. It was a diseased state of the brain that gave occasion for the following lines, which are so sorrowful and so affecting—

"From Marlborough's eyes the tears of dotage flow,
And Swift expires a driveller and show."

If, then, either derangement of the mental faculties, or their partial or total suspension, depends upon a morbid condition of the brain, it is reasonable to conclude that the brain alone is the organ of the mind. Indeed, nothing but thoughtless prejudice could prompt any one to deny this—the first fundamental principle of Phrenology. And yet, strange to say, men of talent and

education have been found to deny the truth of it, because, say they, we have no consciousness of the brain being concerned in the operations of the mind. A more futile objection could not be hazarded. Are we conscious that the liver secretes bile, or the stomach the gastric juice, which converts the food into the life-sustaining chyme, or the action of the pancreas, while it is eliminating the fluid which serves to change the chyme into the still more vivifying chyle? Yet these organs are always in a state of activity.

It being proved, then, that the brain is the sole organ of the mind, are we, therefore, to conclude that it is but a single organ? Anatomy, physiology, and pathology afford undeniable evidence of the fallaciousness of such a notion. It is utterly irreconcilable with the laws of nature, which are in themselves invariably consistent.

To prove the truthfulness of this—the second fundamental principle of Phrenology—conclusive evidence may be obtained by searching into the conditions under which monomania presents itself. And, after pursuing such a course of inquiry, it would be a matter of astonishment if any one could hesitate to admit that the brain consists of a number of organs which are quite distinct from one another: for the brain of a monomaniac is found to be disorganised in its structure, so far, at least, as the eye can discern, only at that part of it which is proved by Phrenology to be the organ of the unsound faculty. Evidence confirmatory of this fact shall be adduced when the special mental faculties come to be considered.

Another interesting source of enlightenment in regard to the certain existence of a plurality of organs in the brain is afforded by children of precocious genius. Sarah Colbourn, Bidder, Noakes, and others astonished the

most able mathematicians by the surprising rapidity and accuracy of their arithmetical calculations. The "Infant Lyra," when only six months old, is said to have been disagreeably affected by discordant music, and delighted with harmonious sounds. At the age of three or four years she charmed the public by her seraphic performance of her own extemporaneous compositions on the Irish Harp. And there lived in the last century, at the village of Wargrove, in Berkshire, a fool, of the name of Jack Fletcher, who could repeat nearly every word of a sermon after having once heard it. Here we have simple, isolated rays of genius illumining the general incapacity of childhood, and shining even through the mists of imbecility.

It may not be premature to state here that these extraordinary faculties were, in the above-mentioned cases, accompanied by a singularly large development of those parts of the head which are, according to Phrenology, the organs of those faculties.

After this brief but conclusive exposition it is hardly necessary to take any notice of certain objections made by some anatomists, as to the dividing of the brain into a congeries of organs, each of which exercises its own peculiar function, exclusively. They have thought that this assumed fact cannot be sustained, because the apparently homogeneous structure of the medullary substance of the brain offers a satisfactory refutation of Gall's doctrine.

This shortsighted objection is for ever set aside by the facts that the spinal marrow, or cord, is composed of anterior and posterior columns, which are, respectively, the transmitters of sensation and of voluntary motion to and from the brain; and that neither column can perform

the function of the other. The experiments of Sir C. Bell and Mayo, in this country, and of Majendie, in France, have long ago demonstrated that such is the case. And yet no naked eye can discern any difference of structure in the columns of the spinal marrow. Can any one, after such analogical evidence, presume now to deny that the brain, like the spinal marrow, is capable of performing functions which differ intrinsically from one another; although it is beyond our power to trace any distinction in the material composition of its diversified organs? Neither can the eye discern any difference of structure between the optic and auditory nerves. And there is no structural diversity to be seen in the sensitive portion of the fifth pair of nerves, although one portion of it becomes expanded into nerves of ordinary sensation, while the other is the nerve of the sense of taste.

But though no difference of structure is discernible in the various parts of the brain, to which is ascribed a diversity of functions, it would be unreasonable to suppose that no such discrepancy exists. Nay, it is absolutely necessary that such should be the case, for it would be contrary to the unvarying laws of nature that conflicting mental affections, whether moral or intellectual, could possibly emanate from organs in which no structural difference exists. Could malignancy and charitableness be ministered to by the same part of the brain? Or could open-handed, self-denying benevolence ever admit of its being cooped up in the cold and cheerless cell of grasping, shivering avarice? Could the elements of cowardice and courage find a fitting domicile in the same part of the brain? As well might it be imagined that the nerve of seeing could do the office of the nerve of hearing, as

that hope and fear, gentleness and ferocity, could be the offspring of a single organ.

The next point to be considered is, whether size of brain be a true measure of mental power, all other conditions being equal. Can there be any doubt that this law regarding size is found to exist unchangeably all through nature? A deal plank, two inches thick, will support more weight than another from the same tree which is only half its bulk; but it will not resist such an amount of force as a piece of oak of similar form and calibre is capable of doing. Here the conditions are not equal, and accordingly the results are not alike. A ball of iron and one of lead may be the same size, but how different their capacity for resisting pressure. It holds thus with the brain as with everything else. Take, for instance, two heads equal in size, and nearly resembling each other in form, at least in all their salient points, and the prevailing bias of the mind will be found to be the same in both; but the active efficiency of one of them will be superior to that of the other, if its possessor be endowed with a temperament of greater refinement and intensity. If, then, temperament heightens the structural quality of the brain, a small head, with a high temperament, would display more mental energy than a large one of the same form, which is constitutionally sluggish: just as the close, compact structure of the oak plank renders it much stronger than the deal one, with its comparatively loose fibres, or as a half-inch iron rod is capable of sustaining more pressure without bending than a soft and malleable lead one of the same or even of larger dimensions. Moreover, there may be two heads, each containing the same quantity of brain, with the same temperament, and yet their capacity, either for thought or action, or for both, shall differ

to a vast extent. One may be eminently intellectual and gentle, the other impetuous and bold, but incapable of shining in any occupation demanding considerable talents. The fine busts of the late Duke of York and the Marquis of Wellesley, by Nollekens, present heads nearly equal in size, but how opposite in form! The first is indicative of heroic courage and a spirit of determination, sometimes amounting to obstinacy, but it was the obstinacy of an incautious, unreflecting man, and not the offspring of a self-willed, overbearing disposition. In the other, there is a truly noble development of the forehead, where the organs of the intellectual powers are located, which denotes talents capable of managing important affairs, the great moving principles of which his comprehensive mind could readily embrace, and judiciously apply to the effectual fulfilment of his object. Yet it would seem to be a mind which would find it irksome to give attention for any length of time to detached individualities. And though its possessor was neither obstinate, turbulent, nor inclined to be contentious, he would be fearless in the discharge of his duty. On phrenological principles, the intellect of the Marquis should be active, industrious, persevering, comprehensive, concentrated; that of the Royal Duke, incomprehensive, unconcentrated, uncircumspect, and indolent, as regards the higher attributes of the intellect. In difficult emergencies a man endowed with such a head would be apt to lean too much upon the opinion and discretion of others.

To warn those who are beginning the study of Phrenology against the fallacy of imagining that large heads must necessarily possess more mental capacity than smaller ones, it will be well to adduce one instance more that will not be deemed uninteresting.

The head of the late Joseph Hume was immensely large, and he certainly displayed great energy, as well as indomitable perseverance and firmness of purpose, which no pressure from without could subdue. These characteristics were in perfect accordance with the salient features of his head. He possessed a strong and assiduous intellect; but it was more capable of grasping statistical details than of comprehending enlarged general principles, either in science or in politics. And this peculiarity of intellect is exactly such as would strike the mind of a skilful practical phrenologist as belonging to a forehead shaped like his. The head of Lord Brougham, on the contrary, was not a particularly large one. Certainly, it was not nearly so large as Mr. Hume's. Brougham's forehead might be deemed even less expanded than it was by persons ignorant of the principles of Phrenology. Comparisons like this have been, again and again, raised as fatal stumbling-blocks in the path of those who were conscientiously pursuing the study of this noble science. But its faithful students must not be scared away from the pursuit by a phantom, conjured up by those who have, avowedly, totally neglected to seek for an intimate knowledge of its fundamental laws, and who were, therefore, incapable of truly estimating its palpable confirmative evidences. How, then, is the vast superiority of Brougham's intellect to be accounted for? It arises from the harmonious manner in which all the organs of the intellectual faculties were balanced and blended together in the forehead of that extraordinary man. For this rare equalisation of organs is always accompanied by a capacity for arranging with preciseness the various intellectual faculties, and of concentrating their energies

upon any subject that comes within the range of their powers of comprehension. Now, this balance of power did not characterise the organs of Joseph Hume's forehead. He possessed some of the intellectual organs in a high state of development, and these were indicative of the kind of talent manifested by him in his laborious and successful career. But he was comparatively weak in those parts which, when amply developed, produce logical precision in oral or written discourses, while his unflagging industry in the investigation of subjects, lying within the somewhat contracted sphere of his useful faculties, has seldom been equalled. His perseverance and unswerving stedfastness of purpose were indomitable. It is also a recorded fact that the region of the head wherein the organs of these mental attributes lie is protuberant in the cast of the head of this honest reformer.

But though a head of moderate size will be often found to manifest much more energy and talent than a large one, owing to the superior symmetry of its proportions, there is a measure of size above which the human head must reach before its possessor can take his stand as the qualified associate of rational beings. Idiocy is the invariable concomitant of a head that measures only sixteen inches in circumference. Indeed, I have never seen nor heard of an adult's head under nineteen inches in circumference which was not that of a congenital idiot. The smallest head belonging to a rational being ever measured by myself was only twenty inches and a quarter. It was the head of a young lady of superior talents, whose reasoning powers were of a high order. She was capable of writing with considerable effect, especially on theological subjects. This head was very narrow just above

the ears, and it was also very small at the back part; but it was high and well filled out at the top. The forehead was broad, and high, and prominent to a remarkable degree, and it was, moreover, harmoniously balanced. To judge by the temperament the structure of the brain was of the finest quality. It is in the active, bustling, impelling attributes of the mind that this lady would evince a deficiency of vigour, owing to the smallness of the animal region of the head.

It is safe, therefore, to conclude that a head might exist resembling this in every respect, except that the forehead may be somewhat smaller, but still large enough for the exhibition of some talent; and that thus might be found an individual with a head even under twenty inches, capable of performing the ordinary duties of life in a rational manner.

The instinctive sagacity of some animals, and the vigour of their affections, are concomitants of very small brains. But there is this difference between them and the small brains of idiots, namely, that the quality of an animal's brain is perfect, and its form exactly adapted to the manifestation of the desires of the creature, while the structure of the idiot's brain is lamentably imperfect, and its form defective.

It would seem, however, to be a universal fact, in regard to the human race, that an adult's head much less in circumference than twenty inches is, according to our present experience, certain to be abnormal in shape and ill-organised as to the structure of the brain.

May not this constant association of the excessive smallness of the head and the imperfect organisation of the substance of the brain, in the case of idiots, be considered tantamount to a proof that a brain of so diminutive a

calibre, be it ever so finely organised, would, notwithstanding, be altogether inadequate to the due performance of the complicated affairs of life; or, at least, that no approach to excellence could be attained by any one so scantily endowed with the instrument of the moral, religious, and intellectual faculties? There are heads of adults even below the measure of nineteen inches. The head of the Amsterdam idiot, at the age of twenty-five years, was only sixteen inches round (see Plate 9). Another, at Cork, at the age of seventeen, was only seventeen inches; and the heads of three or four adult French idiots were about the same size. There was an idiot in St. Martin's Workhouse, London, whose head measured nearly nineteen inches; and here we may recognise the advantage of its nearer approach to the size of the head in an adult requisite for the proper manifestation of the faculties of the mind. This poor creature could feed himself; and, moreover, he evinced a sense of any kindness used towards him by smiling, as it were, from a feeling of thankfulness. The idiot of Amsterdam could not feed himself, nor did he seem to be moved by any one of the human affections. Congenital idiots, like these, sometimes have a large development of some one organ or another, and this is attended with occasional emotions of great intensity. It may here be observed that the diversified character of these affections are entirely in accordance with the laws of Phrenology. And this, again, is a proof that the brain consists of a congeries of organs, each of which is capable of acting by itself, and of its own accord; although almost all our thoughts and doings are, undoubtedly, dependent on the mutual influence of several faculties.

With regard to the average size of the adult male head,

the result of a vast number of measurements shows that it does not exceed twenty-two inches in circumference. A head of such dimension, with an active temperament, is capable of displaying great mental energy; but the direction which that energy shall take will depend upon the development of specific organs, and their special combinations, which are as various as the diversified talents and tempers of men.

It must not, therefore, be supposed for a moment that a head which falls below this average must, of consequence, be inferior in mental power to one that may happen to be much larger. Indeed, the heads of some of the greatest geniuses of modern times are very little above twenty-two inches in circumference. The original cast of Sir Walter Scott's head is twenty-two inches and a half. That of Crabbe is twenty-two and three-quarters, and Byron's hat, according to Colonel Napier's statement, was remarkably small; and Leigh Hunt says Shelly's hat was a small one. The cast of Fuseli, the painter, measures twenty-two inches and an eighth; and the posthumous cast from the shaved head of the great continuator and extender of Newton's "*Principia*," Laplace, is no more than twenty-two inches round. But the frontal portion of it is singularly wide, and it is exceedingly large at the region of Order and Number.

Here, then, is the head of one of the greatest mathematicians of any age or country, which does scarcely reach, in general bulk, the ordinary average standard of size. Still it indicates only the presence of partial mental power. It was wholly intellectual: for the regions of the propelling and commanding passions were very moderately developed. And it is not within the sphere of probability that a man, possessing a head of that size,

with so predominating a frontal region, could ever muster up sufficient force of character to curb the genius of revolution in its tumultuous progress, and direct its future movements according to his will. Such a man was Oliver Cromwell, such was Napoleon Bonaparte, and it is certain that both of them had large heads. Yet not so large, perhaps, as the heads of many men, by no means distinguished for mental superiority. The head of Blomfield Rush, the daring murderer of the Jermy family, was as large as Cuvier's, or Rammohun Roy's, or Spurzheim's, each of which was very large, or as that of Mr. Markwick, with which it is contrasted in Plate 2, —a man, the nobleness of whose mind is noticed under the head of Inhabitiveness. But how opposite to the tranquil course of their dispositions were the channels through which the turbulent energies of that ferocious man were directed! What system of mental philosophy but that of Gall and Spurzheim can enable us to explain the cause of such marked diversities of character?

It was, for instance, the rare combination of singularly powerful organs, both of the intellectual faculties and of those of the propelling passions, stimulated by exorbitant love of power, that rendered those wonderful men, Cromwell and Napoleon, the conquering spirits of their times (see Plate 10). And it was the great deficiency of the region of the moral sentiments in Rush's head that rendered him a recipient of the spirit of wickedness which found a fitting habitation in the organs of the inferior animal propensities, that were in his head of great magnitude. In the heads of Cuvier, Rammohun Roy, Markwick, and Spurzheim, indications of a totally opposite character were conspicuous.

Do not all these antagonistic instances clearly show

that superior size of brain is a sure sign of mental power, all other conditions being equal, but that the power differs in kind, according to the local position of the predominant organs? And, although numerous cases have already been mentioned which prove that men with heads of moderate size are capable of evincing great genius and mental energy, it is, nevertheless, right to state, as a crowning testimony of that fact, that the skull of one of the greatest and most original of philosophers, Descartes, measured no more than twenty inches and six-eighths. Now, allowing one inch and an eighth, or one and a quarter, for the presence of the integuments (a fact which many comparative measurements have enabled me to certify), the head of this great genius would measure in circumference, in his lifetime, not more than twenty-two inches. But his forehead was very fine. Yet it was specially and even surprisingly indicative, as was Laplace's, of a genius for geometry of the highest kind. The fine portrait of him, engraved by Edelinek, is a singularly striking phrenological attestation of this. But neither the skull nor the portrait is symbolic of his having possessed equal superiority of genius, as an explorer of the labyrinthine regions of metaphysics. And what Lord Brougham said of Descartes is in perfect accordance with the characteristic development of the forehead of that great man. "He is," says that most competent of judges, "the true author of all the modern discoveries of mathematics. He made the greatest step that ever man made since the discovery of algebra, which is lost in the obscurity of remote ages. I mean his application of algebra to geometry, the source of all that is most valuable and sublime in the stricter sciences and in natural philosophy. But assuredly his

physical and psychological speculations are much less happy; although it was no mean fame to be the author of a treatise, the answer to which was the first work ever composed by man—Newton's "Principia."

All nature, then, proclaims the truthfulness of the third general principle of Phrenology. But it is a thing to be regretted that the indiscriminate use of the terms "above and below the average size," when applied to particular heads, has given rise to much misconception as to the real tenets of this science, and has led some men, distinguished for high attainments in the paths of literature and of science, to oppose its diffusion, when they found that their own heads barely reached the medium standard, while men of poor abilities are often endowed with very large ones. But surely the notable cases of Descartes and Laplace must set aside for ever such premature objections, however plausible they may have appeared at first sight, when general development only was regarded, while that which was particular and specific was overlooked. For it should be remembered that it is the relative size of the different regions, or the three grand divisions of the brain of each individual, and not only of the regions themselves, but of the organs of which those regions are composed, which alone affords a criterion whereby the true principles of Phrenology, as a science and as an art, capable of being practically used in the analysis and delineation of character, can be tested and judged.

It is presumed that conclusive evidence has been adduced already to prove that the brain, which is undoubtedly the organ of the mind, is composed of several distinct parts or organs, each of which enjoys its own peculiar function. By-and-bye evidence the most palpable

shall be brought forward to show that these organs amount to a certain number; and, moreover, that that number accords exactly with the number of the primitive fundamental faculties of the mind. Not such faculties, however, as the conjectural hypothesis of metaphysicians would impose upon us as being fundamental, but such as the demonstrable science, bequeathed to the world by the genius of Gall, enables any one of ordinary talent to discern and to estimate, not only in their individual qualities, but likewise in all their harmonious coherency. And it may, with the utmost correctness, be averred that the constant sympathy which exists between certain organic combinations and certain ideal associations should be regarded as conclusive evidence of the soundness of the foundation upon which Gall has raised this admirable system of mental philosophy; for, as Bacon has wisely said, "It is the harmony of a philosophy that gives it light and credence."

Why is it that this luminous, transparent picture of the faculties of the mind and their special organs in the brain had, before the advent of Gall, eluded the penetrating minds of the greatest philosophers both of ancient and modern times? For some of them were equal, others possibly superior, to Gall in comprehensiveness of intellect and zeal to acquire knowledge. Yet there is not one of them all, from Democritus, Aristotle, and Plato, whose attention was practically directed to that end, that did not fail to deservy this glorious picture. Hence it cannot fairly be questioned that they all fell short in the display of that rare perspicacity of intellect, manifested by Gall, in discerning and exposing to the open light of day the true sources of diversified mental phenomena, which lay so long concealed behind the mystic veil of metaphysics,

and which he was, even in his childhood, led to investigate, through an ardent thirst, amounting to an imperious instinct, to make himself acquainted with the cause of the diversities of dispositions and talents. But, setting aside all personal comparison as to superiority of understanding, it cannot be denied that the various and often antagonistic opinions entertained by speculative metaphysicians, in regard to the mind and its faculties, are unsatisfactory; because, unlike Gall's, theirs are for the most part, at least the issue of their own individual mental idiosyncracies. For, while Gall drew his materials for the construction of the true physiology of the brain from the wide domain of animate nature, where all things are palpable and consistent, they were employed in delineating the "Idols of the Den." And truly did Lord Bacon judge, when he said—"There is no small difference between the idols of the human mind and the ideas of the divine mind, that is to say, between certain idle dogmas, and the real stamp and impressions of created objects, as they are found in nature."

Driven from their strongholds, which they vainly looked upon as impregnable, by the well-served artillery of unerring facts, some scientific opponents of Phrenology took shelter in a redoubt, and to that they clung with persevering tenacity. "The skull," they said, "does not exactly represent the shape of the brain within it; and, therefore, the phrenologist is precluded from forming a just estimate of character by an inspection of the head, even though the fundamental principles of the science were founded on the natural laws."

A more futile objection than this could not be hazarded, for the skull, as every physiological anatomist knows full well, grows, *pari passu*, with the brain, and adheres to it

throughout with as much exactness as the plaster mould does to the bust within it; and when the brain is healthy there is scarcely any observable inequality in the thickness of the skull. Just over the root of the nose, indeed, there occurs sometimes a separation of the outward and inward plates of the bone, which is called the frontal sinus.

Now there are some writers who think that this sinus is a fatal obstacle in the path of the student of Phrenology. But, in their zeal to quench the only light capable of guiding mankind through the intricate paths that lead to the temple of mental philosophy, they have missed their mark by asserting that the prominence of the bony ridge of the eyebrow is not, as phrenologists have assumed it to be, a true criterion of the existence or non-existence of this frontal sinus, since it was found by Sir William Hamilton, the eminent writer on mental philosophy, after an extensive examination of skulls in the museum of the University of Edinburgh, that the sinus was quite as strongly marked in skulls which were flat across the brow, as it was in those wherein the prominence of the same part was conspicuous.

Now what does this last fact, as given by a highly intellectual opponent, tend to prove? The very reverse of what it was intended to show. It shows that the presence of this sinus offers no real obstruction to our forming a right estimate of the allowance to be made as to the real extent of cerebral development at that part of the brain which lies behind the sinus, whether the brow be projecting or not.

But is it true that this sinus always exists in the adult skull? Spurzheim averred that, in all his experience in the opening of skulls and dissecting of brains, he had never found this frontal sinus existing before the age

of thirty-five years. In the skull of Lord Byron, who died at the age of thirty-six, there was not the slightest appearance of a sinus.

But as it is certain that these gleanings from the dissecting room, from which Sir W. Hamilton drew his inferences as to the constant presence of this sinus, were the skulls of persons of mean condition, and consequently of uncultivated understandings, it would follow, according to the natural laws of the growth and diminution of parts, that the intellectual portion of the brain in persons of their humble station must, in a long course of years, have become reduced in size, on account of its comparative inaction. And it is highly probable that the skulls here alluded to belonged to poor persons far advanced in life; for the dissecting room is not furnished with the remains of persons of good station and education.

Now, as the inner plate of the skull must necessarily be in contact with the surface of the brain, when no morbid substance intervenes, the falling away of the brain by means of the absorbent vessels, as a natural consequence of its inactivity, must be followed by the secretion of bony matter from the blood through the action of the seccernent vessels. And this bony matter, being deposited on the inner surface only, gradually produces, in the course of years, that separation of the inner and outward plates of the skull which has been designated the frontal sinus. And why is it that no sinus ever exists in the skulls of those who die in childhood or in early manhood? It is because the rapid increase of the brain in early life, caused by the deposition of cerebral substance through the seccernent vessels, renders more room necessary, and as the hard bony case cannot yield to the soft

growing matter within it in the ordinary way, there exists a tissue of absorbent vessels which, by means of a wonderful instinct, are forced, even by the soft pressure of that cerebral matter, to remove, to a certain extent, the interior surface of the skull, in order to give place to the growing brain.

But as this incessant absorption of bone continues for many years, and as there occurs during that period of time a great perceptible increase in the size of the head, it is obvious that the skull, which in childhood is not above an eighth-of-an-inch in thickness, would be entirely absorbed if it were not for the action of the secernent vessels, which are, at the same time, depositing ossific matter on the outside of the absorbed parts so far as to make amends for the removal of it from the inside by the action of the absorbents.

Such is the living procedure which prevents the formation of the frontal sinus in the skulls of children, and even in those of adults in the prime of life; and which, on the other hand, causes its presence when life is in its decline.

With regard to this latter fact, the cases brought to light by Sir William Hamilton, in which the sinus was at least as extensive in skulls that were characterized by a striking flatness of the brow, as in those where great prominence was manifest, it is only what the laws of Phrenology would lead those who have carefully studied them to anticipate. For example, the organs that are affected by the sinus are those which bring us acquainted with substantive external objects and some of their qualities. Now it happens to be an invariable law of nature that, when life's prime is past, the nearer we approach the goal of our existence the more we

become uninfluenced by the promptings of curiosity. We become less observant, and the memory of what we really do notice is far less tenacious than it was formerly. And this is owing to the brain having become shrunken in the region which consists of those organs.

Now as all organs are, *ceteris paribus*, active in proportion to their size, it follows that the greater the prominence of the parts in question the longer will their tendency to continuous energetic action be sustained; and, consequently, the later should be the existence of this sinus.

So far, therefore, is this discovery by Sir William Hamilton from affording that eminent psychological philosopher any grounds for his determination to eradicate from the minds of thinking persons all confidence in the doctrine of Gall—so far is it from affording a warrant for such a conclusion, that it is, on the contrary, a palpable fact in corroboration of its truthfulness. And the averment of Spurzheim, that this sinus never makes its appearance before the age of thirty-five, shews that no valid objection can exist, on this score, to the practical applicability of Phrenology to the elucidation of the special talents and dispositions of children. And, surely, the power which this science imparts, of instantly making known to parents and teachers the mental characteristics of children, must be of the highest value, since it teaches how precept, training, and example may be used to the best advantage; for these never fail to make a deep and lasting impression on the imitative instincts of childhood. Neither does the objection, as regards the sinus, hold good against its power of affording a correct monitor in advising even adults as to the

kind of occupation that is most suitable to their individual capacities. Nor does it, at any age, prevent us from using the head as a beacon to warn us to avoid the society of treacherous and dishonest persons. Nor can it, in the least degree, mar the direct salutary influence of Phrenology in the classification and cure of insane persons, and in the management of criminals (see Plate 7).

Having proved by irrefragable evidences that the brain is the organ through which the faculties of the mind are made manifest in this world, and that, moreover, it is, in fact, as in reason it must necessarily be, composed of a congeries of organs, each of which is capable of performing a part that is entirely distinct from the function of any of the others; and having also demonstrated that size of brain is a true criterion of power, all other conditions being equal, and that the direction of that power is dependent upon special configurations of the brain, which are as various as the inherent mental qualities of men with which they are reciprocally accordant—having shown that these fundamental general laws of Phrenology are true to nature, I will now proceed with the analysis of the several individual faculties, and at the same time demonstrate, by means of well authenticated instances of a most interesting and instructive description, the position of their organs. And, as the superficial form of the skull is proved to be a correct representation of the brain within it, there can be no difficulty in forming a just estimate of the relative magnitude of any organ.

It is well to state here briefly that the brain consists of two parts which are technically denominated cerebrum and cerebellum. The cerebrum fills the skull with the exception of that part of it which lies across its base,

just over the nape of the neck. It is here that the cerebellum is located. There is also within the precincts of the base of the skull that body called medulla oblongata, which is composed of the primary bundles of medullary and cineritious, or white and grey substance, which, by a continual aggregation of these substances, caused by an abounding circulation of blood through the minutest fibres of this sensitive and delicate structure, ultimately become developed under the form of the cerebrum, or greater brain, and the cerebellum, or little brain. This medulla oblongata crowns the spinal cord like the capital of a pillar. It is the point in which the flame of life is most readily quenched, for it is in it that the roots of those nerves, upon which the continuance of animal life depends, are concentrated. It is into the substance of the hindmost portion of this body that the nerves upon which the will or volition can exercise no control have been traced to their source. It is necessary to bear this in mind, in order the more readily to comprehend and duly appreciate the following effort at rooting out, from the category of physiological truths, the notions entertained by every one of those distinguished anatomists and philosophers who have repudiated Gall's discovery in regard to the true function of the cerebellum. This is the subject that shall first call for the reader's attention, in compliance with the practice of every one who has written on Phrenology.

THE CEREBELLUM AND ITS TRUE FUNCTION—AMATIVENESS.

WHEN it was ordained that a man should forsake father and mother and cling to his wife, who was, but a little while previously, a stranger to him, there was implanted within him a propensity powerful enough to draw the affections into channels differing from those through which they were from early infancy accustomed to flow; but still without causing a lessening of love for the familiar objects of old, affectionate, and reverential attachments. This instinct forms the principal ingredient of the mixed passion called Love. It renders man, in an especial manner, susceptible of the influence of the beauty and grace so liberally bestowed on the fairest portion of humanity. It is this feeling, when acting in harmony with predominating benevolence, warm attachment, respectfulness, and conscientiousness, heightened by a good endowment of ideality, or the sense of the beautiful, that imparts so much enthusiasm and unselfish devotedness to the loves of the sexes, and spreads such enduring charms over the domestic fireside. And these sentiments, when chastened by the presence of pure religious aspirations, render mankind ready, instinctively

and voluntarily, to entwine themselves for life within the bonds of wedlock. Happy are they in this state of union whose dispositions harmonise with one another; but bitter woe is often the lot of those high-minded persons who are bound for life to consort with the ill-disposed and the selfish; for this propensity, when left to riot uncontrolled by the moral sentiments and foresight, has been, in all ages, the fertile and ungovernable source of the bitterest misery and heart-burning in private life, while some of the direst calamities that have ever afflicted society have arisen from unhallowed submission to its imperious cravings.

It was an unholy attachment like this for young Roger Mortimer that caused the accomplished and high-born Isabella of France to conspire with that able and ambitious man, not only to deprive her weak-minded husband and king of his throne, but even of his life. And so lost to shame did she become that, when the young Edward with his guards had surprised her and her paramour in the castle of Nottingham, and seized Mortimer, she rushed from the chamber where she had lain concealed, into the presence of her exasperated son, exclaiming—"Fair son, spare my gentle Mortimer!" It was the impetuous craving of this passion that rendered the heart of Henry VIII. callous to the pleadings of pity which must have acted occasionally, even in him, as an internal monitor, to warn him of the remorseless cruelty of his conduct. And, in his case, it was also the first ostensible cause of the greatest ecclesiastical revolution recorded in history. It was the enchanting fascination of Cleopatra, the beauteous syren of the Nile, that caused Mark Antony to let slip heedlessly from his grasp the sceptre of half the world. Through the influence of this absorbing

instinct even the great mind of his master, Julius Cæsar, succumbed for a season to the captivating charms of the same enchantress. But, not like Antony, Caius Julius was endowed with—

“An immortal instinct that redeemed
The frailties of a heart so soft, yet bold,
Alcides with a distaff now he seemed
At Cleopatra’s feet; and now himself he beamed
And came and saw and conquered.”

It was submission to the unruly dictates of this passion that brought Priam’s powerful kingdom to destruction—an event which afforded a theme for the exercise of Homer’s transcendent genius.

Since love engages our thoughts in the morning of life with greater intensity than other affections, young persons should be careful as to the manner in which it is likely to influence them; for its first incentive, being a strong animal instinct, should be guided by those refining moral and religious motives, which mankind alone, of all sublunary living things, has been formed to enjoy. “The passion called Love,” says Edmund Burke, “has so general and powerful an influence; it makes so much of the entertainment, and indeed so much the occupation of that part of life which decides the character for ever, that the mode and the principles on which it engages the sympathy, and strikes the imagination, become of the utmost importance to the morals and manners of every society.”

When the paramount influence of this fundamental animal instinct is correctly weighed in the balance of the mental faculties it follows, as a fixed law of nature, that there must exist a part of the brain which is

specially devoted to its manifestation. And, as the organs of the strongest faculties are the largest, so do we find that the organ of Amativeness is the largest of them all.

It would not at all accord with the spirit of this book to narrate the facts which established in the capacious and conscientiously scrutinizing minds of Gall and Spurzheim a thorough conviction that the propensity, now under consideration, has the cerebellum for its organ. Nevertheless it may not be improper to adduce a few remarkable examples, which warrant the really investigating disciples of Dr. Gall in their corroboration, without doubt or hesitation, of his opinion as to the true function of the cerebellum.

But some physiologists have asserted that the cerebellum is always in uniform proportion, as to size, with the cerebrum. Now, if this assertion were borne out by facts, it is clear that Gall's view would be untenable, for men with large heads would, according to that view be, *ceteris paribus*, necessarily more under the influence of the amatory propensity than persons with small heads. But it is certain that this is by no means the case. And as many of the most distinguished anatomists and physiologists concur in supposing that the cerebellum is the director or regulator of muscular motion, and the preserver of equilibrium, it would follow here also that an individual with a large head could exercise these functions with more precision and neatness than any one with a small head—size being always (*ceteris paribus*) an indication of power. Surely this state of things cannot exist in the domain of nature; for if this assumed balance of quantity were an invariable fact, we should expect to find the glorious singer and actor, Lablache, capable of

surpassing in gracefulness of attitude and well-poised steps the incomparable dancer, Taglioni. Another able writer on physiology, Mr. Alexander Walker, endeavoured to prove that the cerebellum is the organ of volition. And certainly there is a close identity between volition and the faculty of regulating and directing muscular motion. But here again it may be positively averred that large heads are not necessarily accompanied by superior force of will or volition.

Before these conjectures respecting the function of the cerebellum come to be considered it will be well to advert to the supposed constancy of relative proportion between the cerebrum and the cerebellum.

It is indeed matter of surprise to find men of superior intellects and attainments taking for granted, in so important a phenomenon, without investigation, what others have hazardedly propounded, when a wide field lay open before themselves, wherein materials for setting their minds right as to the real state of the case are always to be found.

Let any one, for instance, compare Bartolini's bust of Lord Byron with that of Samuel Rogers in the Kensington Museum, and he will see that, although the head of Rogers is much larger, the cerebellum in Byron's head is twice as big. Or let the bust of Rogers be contrasted with that of Lord Lyndhurst by Behnes, in the same gallery, and it must be acknowledged that the cerebellum is, in proportion to the cerebrum, not only absolutely but relatively many degrees larger in the head of the renowned orator and lawyer than in that of the refined and unsensual poet. And how considerable the difference between the busts of Thomas Moore and Chantrey's fine characteristic bust of Wordsworth! A mere glance at

the casts from nature of the virtuous poet Crabbe and of the unhappy but incorrigibly sensual Dr. Dodd (see Plates 3 and 4) must convince any one that, although their heads are pretty equal in size, but totally different in shape, the cerebellum in the cast of Dodd's head is extremely large in proportion to the rest of the head; and that it is of moderate bulk both absolutely and relatively in the cast of Crabbe. In the very large head of Spurzheim the cerebellum is of very moderate size, while it is remarkably large in the sensual culprit Rush (see Plate 2). In the fine lofty head of the Chevalier Neukom, the musical composer, the cerebellum is rather small, whilst it is excessively large in the much smaller head of the savage murderer, Mrs. Manning, and in Greenacre, the covetous and deceitful slayer of the woman whom he vowed to marry. Indeed, the absolute size of the cerebellum in criminals, and its relative predominance in bulk over the moral and intellectual organs, are striking characteristics of the heads of these outcasts of society. And surely it cannot be supposed that these degraded persons are possessed of superior capability for the directing and regulating of the movements of the voluntary muscles of the body and limbs with more precision and gracefulness than those in whose heads that organ does not form a characteristic feature.

Indeed, anatomy, physiology, and pathology afford conclusive evidence to show that the cerebellum cannot be the regulator of voluntary muscular motion, as Rolando, Flourens, and others have imagined; nor the focus of sensibility, as Foville thought, in order the better to account for its power as a director and regulator of voluntary motion.

This last conjecture does certainly seem a plausible

one, for it would appear necessary to experience a sensation of the contact of an object, or a perception of its presence through the sense of sight, before the will could have an adequate incentive to put any set of muscles in motion. And the following case affords an interesting illustration of the probable correctness of this opinion.

During the professorship of that original thinker and accomplished physiologist and pathologist, the late Dr. James Macartney, at Trinity College, Dublin, and while I was engaged, as his pupil, in dissecting and preparing a subject suitable for his next anatomical lecture, in his own private room, it was announced that one of the college porters was waiting in the museum to consult him.

The malady of this man consisted of complete loss of sensibility in the right hand, while the power of moving the fingers according to his will remained. He could even grasp the hand of any one, though his hold had but little force. But though he could seize and hold objects, it required attention on his part to keep them from dropping involuntarily from his hand, so this power of holding was of little use to him.

It is obvious that if this man were to place his hand accidentally upon any object in the dark he could not be prompted by any internal monitor, such as volition or will, to take hold of the thing, or to thrust it out of his way, though it should be an obstruction to his movements. And does not this case of itself show, even without the support of Sir C. Bell's discovery of the diverse functions of the anterior and posterior columns of the spinal cord, that the centres of sensibility are quite distinct from those of voluntary motion? But it also shows that these two centres are so closely connected, that any failure in

the healthy functions of either of them effectually mars the healthful action of the other.

But though Foville is right in conjecturing, with others, what Gall had long before seen, that the cerebrum is the central source of voluntary motion, there is the most conclusive evidence to prove that he is wrong in thinking that the cerebellum is the central point of convergence of the sensations, which give rise to voluntary motion. Neither can it be deemed the source of those motions that take place without consciousness.

For instance, there appeared, many years ago, in one of the hospitals of Paris, a child born at the usual time of gestation. This child lived for three days. During that time it had power to move about its arms and legs; and when the nipple, or its substitute, was put to its lips, it evidently was affected by the object; and when placed in its mouth it sucked in the milk in the natural way. But though it possessed this power it did not manifest that instinctive volition with which new-born infants, whose brains are in a normal condition, turn to the mother's breast. For it did not seem to desire food if left to itself; and though there is ground for thinking that it derived pleasurable sensations from the sense of taste, it is evident that it did not experience any consciousness of the traces of pleasurable sensations, for it made no voluntary efforts to renew them.

Now, both the lobes of the brain were entirely wanting in this acephalous foetus (for thus such imperfect children are named), and there was no trace of the cerebellum to be found. The cerebellum cannot, therefore, be the central point of the convergence of sensation, as Foville thought, for in this child there existed sensation, and also that nervous irritability which was the occasion

of the involuntary movements of its legs and arms, as well as the power of maintaining, during its brief existence, the natural action of the stomach, heart, and lungs, over which the will or volition exercises no control whatever. Now, since these organs were capable of performing the functions necessary to the preservation of life, even for the short space of three days, it is evident that the cerebellum cannot be the true source of that power which regulates and preserves the function of respiration and the active powers of the muscles of the heart, and other vital organs; as well as the energies of the minutest capillary arteries, which are the immediate unconscious ministers to the growth of all the tissues of the body; and of the equally delicate absorbent vessels, which serve to remove effete parts, in order to make way for new deposits of similar structure; and of that living force which renders the liver, spleen, and kidneys capable of using their marvellous secreting powers apart from the influence or control of the will. Neither can these functions be ascribed to the cerebrum itself, for in this instance that body was also absent.

But though this case affords conclusive evidence of the palpable truth of the inferences here deduced from it, it yet remains to be shown that the cerebellum is not a central point for the convergence of sensations which are indispensable to the regular action of the voluntary muscles; for in this imperfectly organised being the movement of its limbs and lips were manifestly not the result of volition, neither did they seem to be under the regulating control of any of its organs. Are we, therefore, to assume that the fact of the cerebellum being entirely wanting in this instance is not a disproof of the idea that upon it depends the power of regulating and

directing the actions of the voluntary muscles, and of preserving their equilibrium? The fallacy of such a conclusion is proved to demonstration by the following singular case.

In the summer of 1841, when the late Phrenological Association was assembled at the great room of the Society of Arts, in the Adelphi, Dr. Elliotson exhibited the cerebellum of a gelding which was entirely converted into bone. This anatomical preparation was lent to that distinguished physician, and enlightened supporter of Gall's doctrine, by the late eminent lecturer on veterinary surgery, Mr. Yuatt, who at the same time assured Dr. Elliotson that this horse had never shown any want of power to direct and regulate his movements, but that he walked, trotted, and galloped like other horses, and manifested no unsteadiness in his gait, though his action was somewhat sluggish. The two eminent names, connected with the first announcement of this very singular case, are authorities sufficient to remove all question as to its authenticity. Can it, then, be denied that this is a case calculated to set aside for ever the notion that the function of the cerebellum consists of the power of regulating and directing the actions of voluntary muscles, and of enabling an animal to preserve its equilibrium? Neither can the cerebellum be deemed the centre of general sensation, as Foville thought, for this animal was not at all wanting in that faculty.

And surely, in the face of a fact like that just now narrated, it cannot justly be thought that that organ is the central seat of the nervous energy, which sustains the workings of the interior organs of the body, upon which the continuance of life, even for a moment, depends, and over which the will can use no control. Yet this opinion

was entertained by Swedenborg, and supported by all the force and originality of his genius, because he was led by the writings of celebrated anatomists to a conviction that the pneumogastric nerve, called vagus, from its widespread wanderings, had its source in the cerebellum. And, certainly, there was ample ground, apparently, for his belief; for this nerve issues, on each side, from the medulla oblongata at the place where the oval ganglion of grey substance called, from its shape, the olivary body, lies in apposition with the restiform, or rope-shaped body, which comes directly from the very hindermost column of the spinal cord, with which it is continuous, and then passes into the centre of the cerebellum. But though Spurzheim says, in his "Anatomy of the Brain," that the primary filaments of this great nerve are more closely connected with the cerebellum than with the olivary body, and though that original thinker and careful experimenter, Mayo, in his folio work on the anatomy of the human brain, with its singularly beautiful plates, says that the pneumogastric nerve is seen to spring from the restiform body, it is yet certain, judging by the sure result of Mayo's own dissection, that this great pneumogastric nerve has not its source in the *corpus restiforme*, or inferior pedicle of the cerebellum. For he says that its filaments may be traced into the substance of that body, "and followed through it to the grey matter at the back of the medulla oblongata." As well, then, might the trigeminal nerve be supposed to have its source in the *pons varolii*, or commissure of the two lobes of the cerebellum, because its filaments seem to arise from it. But no anatomist now harbours such an opinion as that. And, surely, the relation of the pneumogastric nerve to the restiform bodies is, in all respects, analogous to that

which the superficial fibres of the *pons varolii* hold to the filaments of the great trigeminal nerve on their passage from the grey substance in the posterior parts of the medulla oblongata, which really is the source from whence they spring.

Indeed, to suppose that the great vagus—the nerve of respiration, digestion, and circulation—could have its source in those restiform bodies would be to ignore the fixity of a general law of anatomy. For it is certain that all nerves have their primitive filaments imbedded in the grey, or cineritious, matter of the nervous centres. It is the vital well from which they spring. But though the pneumogastric nerve, or vagus, draws its strength from this parent stock, it, like a grateful living offspring, imparts, in a marvellous way, to the stomach, lungs, and heart a power that enables them, in their turn, to invigorate, by warm, life-sustaining arterial blood, that parent stock, which, without that constant aid, would instantly become extinct.

Now, as it is an invariable law that all the nerves do take their rise by filaments issuing from the grey matter, and as the *corpora restiformia* are entirely composed of white medullary fibrous matter, they cannot be justly supposed to give origin to the pneumogastric nerve. And though the premises upon which Swedenborg reared his theory, that the mind had its seat in the cerebrum, or the larger portion of the brain, were undoubtedly sound, yet he was evidently mistaken in imagining that the cerebellum was exclusively the residence of the soul, that spiritual essence which he thought was the director and regulator of those vital functions that are beyond the boundary line of our consciousness.

It is clear, then, that the internal organs, upon the

unceasing action of which life depends, can do their work, at least for a brief while, when both the cerebrum and cerebellum are entirely wanting. Such was the fact in the case of the acephalous child already cited. And the case of the horse with the ossified cerebellum is, moreover, a satisfactory proof that neither volition, nor the faculty of locomotion, nor yet the power of preserving the equilibrium of the body, nor of regulating the action of the involuntary muscles and tissues of the vital organs, depend upon the cerebellum.

Where, then, are we to look for the immediate central source of the involuntary vital power which pervades all the tissues of the respiratory and the digestive organs? Where but in the medulla oblongata, from the interior substance of which the pneumogastric nerves arise.

This medulla oblongata, which is situated between the spinal cord and the brain, consists of the anterior and posterior pyramidal bundles of white fibres, with the olivary and restiform bodies. The first of these, in their passage through the *pons varolii*, behind the transverse commissural or uniting fibres of the two lobes of the cerebellum, become greatly increased in bulk by the cineritious substance it meets with in that body, and then proceeding upwards becomes merged in the anterior fibres of the *crura* of the cerebrum, from the interior cineritious portion of which new fibres arise. These increase in volume as they pass through the *thalami* and *corpora striata*, or the great superior and inferior ganglia of the brain, until they reach its hemispheres. It is through these parts that the *will* is transmitted from the frontal, or intellectual lobes of the brain, which are its true and only seats, to the anterior columns of the spinal cord, whence arise the nerves of

voluntary motion. The second portion, or posterior pyramidal bodies, are behind the *pons varolii*, and are continuous in their course with those parts of the posterior columns of the spinal cord from which the nerves of sensation take their rise. These fibres proceed upwards through the back part of the above-mentioned *crura cerebri*, where they become greatly augmented, and then through the thalami and striated bodies, until they reach the hemispheres of the brain, in the frontal lobes of which alone reside the faculties that enable living beings to form a consciousness of the presence of those sensations, and a true conception of their several natures, as shall be shown by-and-by. In the back part of this medulla oblongata there is, also, some grey, or cineritious matter, out of which issue the nerves of the senses of hearing and of tasting, with those which serve to sustain the functions of chewing, swallowing, and digesting food, of modulating the tones of the voice, and of giving natural expression to the face. And though the nerves of the sense of sight arise from the anterior pair of the quadrigeminal tubercles, which are placed higher up, yet these bodies are closely connected by distinct medullary fibres with the medulla oblongata at their back part, and in front they communicate in the same way with the *crura* of the brain. It has been already mentioned that out of this body, also springs the great pneumogastric nerve, upon which, in conjunction with the sympathetic nerve, the functions of circulation, digestion, and respiration, depend. These quadrigeminal tubercles are extremely sensitive. An injury to them is followed by loss of sight; and violent convulsive movements of the body and limbs, seemingly accompanied by great agony, follow the probing of them, in the course of physiological

experiments. Their close connection with the sensory tract of the medulla oblongata, posteriorly, and anteriorly, with the crura, which are partly composed of fibres of the motor tract, is enough to account for their sensitiveness and irritability. It is evident that these characteristic qualities are not at all dependent upon the presence of the lobes of the cerebrum or brain, or of the thalami and striated bodies, which directly and immediately contribute to the forming of those lobes. For, in addition to the evidence afforded, in regard to this phenomenon, by the acephalous child, already quoted, there is on record an experiment made by Flourens, which is strikingly confirmatory of that fact. That physiologist contrived to remove by slicing, and by the strict avoidance of pressure downwards, the hemispheres of the brain of a common fowl, without producing any convulsive muscular movements in the animal, but the instant he touched the quadrigeminal tubercles, their ensued violent and irregular muscular actions.

Seeing these things, are we not justified in inferring that the convulsions which attend lesions of the parts above those tubercles are caused by the shock communicated to these highly sensitive bodies, through the intervening medullary fibres, and not by the inherent sensibility of the parts that happen to be the immediate seat of the lesion, whether that be produced by rough experimental probing, or by the breaking of diseased blood-vessels on those parts?

And is it not natural that death must speedily be the result of any serious injury done to these tubercles, when it is certain that by means of filaments of medullary substance, proceeding upwards from the source of the great respiratory nerves, they have not only a direct commu-

nication with that source, but are almost in close contact with it? For it is here the light of life is most readily put out; as it is upon the integrity of this part that the living energy of the lungs, heart, and stomach depends. And it is here that animal sensibility and irritability may be said to hold their central court. But for the mind to have a just conception, or a simple consciousness of these sensibilities, in regard to their several individual idiosyncracies, they are passed with electric rapidity to the frontal lobes of the brain, which constitute the temple, where the intellectual faculties meet in conclave to divine the peculiar qualities and harmonious blendings of these sensibilities. It may be said, and with truth, that the spinal cord presents a central point of sensibility and irritability at the source of every pair of nerves. But this is a function comparatively of a subordinate nature, for it may be in parts destroyed without causing the loss of life. Indeed every nerve and even every fine filament of a nerve seems in itself to possess these qualities, as every broken off portion of a magnet still retains its positive and negative poles. But yet the true and crowning centre of sensibility and irritability is to be found only in the medulla oblongata.

Now, when the close connection of the cerebellum with this complicated centre of sensibility is duly estimated, can any one be surprised at finding that mutilations of the cerebellum are attended with convulsive and irregular movements of the voluntary, and even of the involuntary muscles, without being under the necessity of concluding that that organ is the regulator of voluntary motion and the preserver of the equilibrium of the body; or that upon it depends the involuntary action of the interior vital organs? Would it not, on the contrary, be more reason-

able to think that the cerebellum is a potent disturber of muscular movements? For a small tumour, whether it be an abnormal growth of bone on the inner surface of the skull, or be composed of some other structure, when it comes in contact with the cerebellum, is accompanied by incurable epileptic fits. It is but natural to infer that this coincidence of facts is solely owing to the irritation and morbid periodical excitement of that organ; and this may happen without any necessary disruption of its structure. To judge by analogy it would indeed be wrong to suppose that this organ can have any share at all in the directing of voluntary movements, for it is certain that all the other well-established organs of the mental faculties, when in a state of excitement, manifest exaltation of their special functions. But the cerebellum, when irritated by disease or by the mutilations of experimental physiologists, manifests no power of control over the motions of the poor animals that are subjected to such experiments. But should not this be the case in an eminent degree, according to analogy, if such were its proper function?

Both reason and fact, then, strictly coincide in annulling the notions of some eminent physiologists concerning the functions of the cerebellum.

But though the functions, said by them to inhere in this organ, can be discharged even while it is in an ossified state, as was proved by the case of the horse under the late Mr. Yuatt's care, yet it is certain that the condition of it exercises a mighty influence upon the most important of those functions. But it is obvious that among them is not to be reckoned the power that regulates the actions of the voluntary muscles or that maintains their equilibrium. No. It rather shows its great energy as a potent medium for their disarrangement, in spite of the efforts of volition.

For instance, in the sickness called hysteria, the cerebellum is the part of the nervous centres which is known to be primarily and specially affected; and convulsions of the voluntary muscles, resembling epileptic fits, form a distressing symptom of this disease. But it is not the voluntary muscles only that are affected by the disturbed or excited state of this organ. The involuntary muscles are also strikingly influenced by its condition. How distressing in this same disease are the irregular palpitations of the heart, the inverted action of the muscular coat of the stomach, and the convulsive efforts of the thin muscle, called the midriff or diaphragm, which, somewhat in the shape of a fan, is spread out as an essential agent in the act of breathing, between the lungs and the viscera of the abdomen. Not only is this the case with respect to voluntary and involuntary muscles, its influence is also very great over the nerves that arise from the centres of sensation. But, instead of ministering to the natural functions of these nerves, it directly contributes to their abnormal action, if it do not altogether produce it; for in hysteria the sense of taste becomes so completely vitiated that substances, nauseous in the extreme to the palate in its healthy state, are eagerly sought for, and eaten with intense relish, by young persons suffering from this complaint. Even the sense of hearing becomes at times impaired, and complete blindness sometimes occurs during a paroxysm of this complaint, even when convulsions are not present. But though blindness and deafness do sometimes occur in severe cases, for a little while, yet, in milder attacks of the disease, both sight and hearing are apt to become morbidly sensitive. The close connection of the cerebellum with the source of the senses of taste and hearing by means of its inferior pedicle, and with

the nerves of the sense of sight through its superior pedicle and the valve of Vieussens, accounts satisfactorily for these phenomena. But this is not all. It even influences the expression of the eyes through the same channels. And as there is not an internal organ of the body that is not liable to simulate, in hysteria, the indications of true inflammatory action, when, in reality, no such action is at all going on, it is reasonable to conclude that this remarkable fact is owing to an exaltation of the function of the cerebellum by which parts that lie under the influence of the pneumogastric nerve are thus abnormally affected. For the first filaments of this nerve are intimately connected, as has been already shown, with the fibres of the *corpus restiforme*, which are a direct continuation of the hindmost columns of all of the spinal marrow. And, moreover, these columns, which seem to be exclusively destined to the service of the cerebellum, are in intimate union, through their whole course, with that division of the spinal cord, out of the grey substance of which spring the primary filaments of the nerves of ordinary sensation. The influences of the sense of touch upon the cerebellum are thus anatomically accounted for. But this influence, which is paramount and special, is wholly dependent upon the presence and healthful condition of the cerebellum itself; for we have seen in the case of the horse, in which that organ was found to consist entirely of bone, that the ordinary influence of the sense of touch was duly felt by that animal.

Besides its connection with the centres of sensation, in all their extent, the cerebellum is united to the motory columns of the spinal cord by fibres, which pass, transversely, from the anterior pyramidal bodies till they

become commingled with those which constitute the restiform bodies: and contribute to the twisted form of these—the inferior pedicles of the cerebellum. And, as has been already noticed, this organ is in communication also with the motor tract of fibres, in the crura of the cerebrum, by means of its superior pedicles. Its intimate union with the nerves, which support the action of the involuntary muscles of the interior life-preserving organs, has also been shown. Is it then to be wondered at that both the voluntary and involuntary muscles should be strangely influenced by strong affections of the cerebellum? And, as the action of the voluntary muscles is co-ordinate in vigour with the intensity of sensation, is it not to be expected that so great a centre of sensation, as the cerebellum obviously is, should be, when powerfully affected, the instigator of overruling impetuosity in the action of those muscles? But with this difference, namely; that in this instance their action is seemingly inordinate, whilst it is co-ordinate with respect to volition. The word seemingly is used here, because, in looking only to the influence of the *will*, which in this case is altogether inoperative, such movements of the muscles would naturally be deemed inordinate. But when these ungovernable muscular movements are always found to accompany strong affections of the cerebellum, as, for instance, in hysteria, it is surely right to conclude that such movements, though they are inordinate with respect to the behests of the *will*, yet are inevitably to be looked upon as being co-ordinate with the instinctive functions of the cerebellum. For Nature's laws, which are the offspring of Almighty creative power, are in all things co-ordinate. Seeing then that ordinary sensation, with a thorough

consciousness of its existence, can remain in all its integrity, even when the cerebellum is nothing but a lump of bone, it follows, to a certainty, that this organ is neither the seat of ordinary sensation nor of consciousness. But, when its intimate connection with the true sources of ordinary sensation is duly weighed and considered, it would be a marvel indeed if so great a centre of sensibility were not affected by impressions made upon the external senses.

Since the cerebellum is the terminus and capital of a grand division of the sensory columns of the spinal marrow, it is but just and reasonable that it should be looked upon as a great centre of sensibility. But it is proved by facts, already stated, that the external senses have continued in all their integrity, after the true medullary and cineritious structure of that organ had been entirely obliterated. It cannot, therefore, be the centre of ordinary sensation. Its sensitiveness, then, must be exclusive and peculiar; and facts, abounding and palpable, convincingly attest that the discovery of the essential quality of that sensitiveness and its reciprocal instinct is entirely due to the keenly observant, sagacious, and comprehensive intellect of Francis Joseph Gall.

The celebrated names already adduced as conclusive evidence of the fallacy of the opinion that there is always a uniformity of proportion, as to size, between the cerebrum and cerebellum, are also examples of the truth of Gall's views.

The addition here of a few more instances, corroborative of this truth, will not be un instructive. For instance, in the characteristic portrait of that licentious man, Pietro Arcetino, painted nearly in profile by his friend, Titian, and engraved by Hollar, the region of the cerebellum is

very large, both absolutely and relatively, whilst the same part is intrinsically of moderate size in the profile of that great artist and virtuous man, Michael Angelo, engraved by his contemporary, Bonasone. And, unlike the case of Aretino, whose death was caused, it is said, by the falling back of his chair, during an immoderate fit of laughter, by which he was seized on hearing of some scandalous story respecting his own sister, the cerebellum is but very moderately developed, in proportion to the grand dimensions of the rest of the brain in Michael Angelo. Or let the beautiful print of the latter by Longhi, from a portrait by Michael Angelo himself, be placed by the side of the fine engraving by Müller, of Luther's portrait by his friend Lucas Cranach, and there can be no hesitation in deciding as to the paramount size of the region of the cerebellum, both absolutely and relatively, in the portrait of the renowned ecclesiastical reformer and whilom friar of the Augustin order. The prominent development of this organ is singularly manifested in the profile engraving of Martin Bucer, by Valk. And in regard to the engraved portraits of Pope Alexander the Sixth, whose course of life was a scandal to the Catholic Church, and of those of the chaste, pious, beneficent, and saintly Charles Borromeo, the remarkable prominence of the same organ in the former, and its scantiness in the latter, are marked characteristics. In the profiles of Lord Bolingbroke and his friend Pope, etched by Richardson, the relative largeness of the same region of the head, in the former, and its moderate size in the latter, can be seen at a glance; and the habits of Bolingbroke, in early life, according to his friend Chesterfield's account of him, were such as would be anticipated by a well-informed

phrenologist at the first sight of this profile. Among the relics of ancient art can also be discerned the source of the degrading profligacy of that extraordinary and accomplished man, Sylla the Dictator, and of the virtuous continence of Cicero, the orator. And it is seen in the finest of the busts of the high-minded Scipio Africanus how the influence of a large development of this organ can be curbed and counteracted, where there exists a fine development of the organs of the religious and of the moral sentiments.

When the importance of possessing an unerring clue to the source of this instinctive affection is thought of, it is hoped that this discourse will not be deemed unnecessarily long; especially, when the hazardous nature of an attempt to overturn, with any prospect of success, the dogmas of eminent physiologists is taken into account, even though the phenomena upon which those dogmas are founded are contradictory and conjectural.

WHAT IS THE SOURCE OF VOLITION?

PREVIOUS to entering upon the analysis of the organs of the cerebrum, or brain proper, and their faculties, it will be interesting to trace the true source of volition, or the will, in its capacity of regulator and director of muscular movements; especially as it serves to throw additional light upon some points of organology and psychology.

It is obvious to reason, founded upon the evidence of palpable facts, that the power of the will over the muscles which are subject to its influence does not at all emanate from the cerebellum. Neither does it spring from the central ganglions of the brain, as was supposed to be the case, when the cessation of this power was found to be coincident with disease of those parts. But since it has often happened that this cessation of power was found to exist when these central bodies were intrinsically free from disease, there can be no true grounds for such a supposition. On the contrary, facts, both natural and experimental, prove, beyond question, that the frontal lobe of the brain, which is the seat of the faculties of the understanding, is also the residence of the faculty called volition or will, upon which the direction and co-ordination of the muscles of voluntary motion depend.

But it would be wrong to imagine that the whole of the frontal lobe is engaged in the performance of this marvellous function; since it is a demonstrable fact that there

have existed many men, possessed of brains and foreheads of great size and transcendent functional power, but who were, nevertheless, incapable of using their volition so that it should become the director and co-ordinator of a certain assemblage of voluntary muscles.

Dr. Samuel Johnson, for instance, was endowed with a forehead indicative of superior intellectual power (see Plate 11), but yet he was not gifted with the faculty of bringing his strong will to bear upon those nerves and muscles of the organs of voice, upon the simultaneous co-operation of which the power of singing and whistling depends. Neither could Napoleon I., with a forehead of still greater power, and abounding strength of will, ever become capable of co-ordinating the movements of the same series of muscles, so far as to give vocal expression to melodious strains. And Gall, who possessed a forehead of great size, and who had the genius to bring mental philosophy, which was, before his time, in a measure simply conjectural, into the category of positive sciences, was also wanting in the power of using his will so as to cause the muscles of his organ of voice to produce harmonious combinations of sounds.

Now the casts from nature of Johnson, Napoleon, and Gall display a far greater development of the frontal lobe than is found to be the case in the heads of many great singers, whose volition, or will, could adapt the organs of voice, without an effort, to the production of melodious tones. This being the case, then, it follows, of necessity, that there should be found in these singers a paramount development of some particular part of the forehead, with which the heads of Napoleon, Gall, and Johnson were but scantily furnished. And such is palpably the case.

This comparatively defective portion of the foreheads of these extraordinary men is found to lie about half-an-inch above the external angle of the eye. And that is the part which is always protuberant in great singers. But it is especially so in all great musical composers. A comparison between the casts from nature of Malibran, Mendlessohn, and Weber, with those of Napoleon, Johnson, and Gall, will afford striking instances of this fact.

Of these three casts Johnson's is most remarkable for the want of saliency in that part of the forehead which has just been indicated. It is called the organ of music, for on it depends the power of perceiving melodious combinations of sounds. Now, Johnson was noted for his total want of ear for music. Napoleon, who, according to Bourienne, had but little real taste for music, was yet capable of being pleasurably affected by it. For he himself, as it is recorded in some maxims and observations, spoken by him to Las Casas in St. Helena, says, "I never heard any music with so much pleasure as Mehul's 'Tartar March.' "

But since it is a well-known fact that there are many highly intellectual men who seem pleased to hear a good song, but who are, nevertheless, powerless, as regards effective volition, even when they make wishful efforts to sing or whistle in tune, it is highly probable that the will of Napoleon the Great was ineffective in this respect.

But those who hesitate or refuse to believe that the perception of melody is confined to a particular organ in the brain, are apt to think that volition, as regards singing, is powerless, only because the organs of voice are naturally, or through accident, not constituted to answer to its behests. Certainly, if the instrument be out of order, the director of its movements will fail to

render its action harmonious. But, surely, it cannot for an instant be supposed that any want of harmony exists in the relative power of the nerves and muscles of the organs of voice in great speakers, who are remarkable for the compass and mellowness of their tones, when talking. And yet some persons of that class have been utterly incapable of exercising such an amount of volition upon those nerves and muscles as would be productive of tuneful sounds, so harmoniously composed as to constitute song. There are others, again, who, though far less gifted with vocal powers as to mere quality of tone, yet have evinced rare ability in causing those nerves and muscles to act so as to render themselves famous for the exquisiteness of their singing. A more striking or more interesting example of this could not be adduced than the poet, Thomas Moore, whose singing was the delight of all who had the happiness of hearing him. Now the prominence of this organ of music is conspicuous in the mask taken, during life, from the face of this great lyric poet (see Plate 12).

But volition is a kind of Proteus of the mind; and it loves to take up its abode sometimes in one organ of the frontal lobe of the brain and sometimes in another; for certainly cases have occurred in which it has found the organ of Constructiveness, or the mechanical instinct, a more suitable habitation for it than that of music.

A striking instance of this truth was to be seen in the streets of London some years ago. A poor man, named Thomas MacDermott, born without hands or feet, attracted the attention of passers-by by the unique dexterity he exhibited in the making of urns and fans out of a tastefully notched piece of wood, which was about ten inches long and one inch square. This was

done by slicing the piece of wood into portions not thicker than vellum, from one end of it to within about half-an-inch of the other. He then spread it out as a lady would her fan. And, after fixing it, ornamented and secured its form by ribbons of various colours, which were woven from one side to the other between the separate cuttings. All this was done with a coarse, ill-fashioned knife of large size. This man wrote an exceedingly neat hand also, with a pen made by himself with the same knife. This he held between his forearms, the stumps of which terminated—one of them a little more than half way between the elbow and where the hand would naturally be placed—the other was much shorter. And the pen he held, whilst making it, in a sort of wooden holder, which he pressed between his knees.

In the face of such a fact as this how erroneous must the theory be that would mainly attribute the superior mechanical attributes of the human race to the exquisite form of the hand. For, though the fair development of this man's mechanical faculties was curtailed through want of this admirably-constructed instrument, he was yet capable of displaying more power as a handicraftsman, if such an epithet be allowable in a case like this, than many individuals whose fingers and thumbs exist in all their integrity; for it is notorious that some persons are quite incapable of using their hands with the least degree of dexterity in any mechanical operation. Nevertheless, it would be impossible, in the absence of this instrument, to fulfil, in their grandest and most diversified forms, the behests of the superior mechanical attributes, that were at the beginning bestowed by God on man alone, of all His sublunary creatures. It is only an instrument of

volition notwithstanding; and cannot, in the nature of things, be endowed with suggestive qualities; although such must have been the surmise of the philosopher, who seemed to think that, if man's arms had ended in something analagous to a horse's hoof, no such mechanical tendencies would be found to exist among the faculties of the mind. But surely in the case of Thomas MacDermott the handless arms were as imperfect, as instruments of the mechanical faculty, as if they had been originally encumbered with such inappropriate and unnatural adjuncts.

The hands of the chimpanzee and the orang-outang make a near approach in form to the hand of man, and yet they have remained, since the day of their creation, without having ever manifested, even in the slightest degree, a tendency to use their fingers and thumbs in any kind of work suggested by the mechanical instinct. Not so with the beaver, the bee, and many other living things that are destitute of hands. Even the birds of the air are capable of constructing their nests, and sometimes in a very ingenious manner.

Seeing then that some persons are possessed of great power of volition in directing and in regulating the actions of the muscles, which are exactly adapted to the working out of mechanical suggestions, and that others are quite destitute of that power, it now remains to be shewn where the immediate source of this power is to be found.

That it is to be found in the marvellous composition of white and grey medullary substance, called the brain, with its attendant vascular neurolema, or pia mater, which invests each of its minutest fibres, in order to their support and renovation by life-sustaining blood, is a fact

established beyond doubt. And that it cannot lie in the cerebellum is as certain as the coming of the light of day ; for the orang-outang possesses a perfect cerebellum, as do those persons who are destitute of mechanical aptitudes even in their simplest forms.

But the will that directs and regulates the actions of those muscles which subserve the mechanical instinct, cannot spring from the same source with that by which those of the organs of voice are guided in the act of producing melody ; for these talents do not always fall to the lot of the same individual. But as every faculty that is purely intellectual, and such as are simply the hand-maids of intellect, have their organs in the anterior lobes of the brain, it is in that division of it we must expect to find that of Constructiveness. And it is to this, and to no other part of the brain, can be assigned the duty of a regulator and director of the muscles necessary for the conduct of mechanical operations.

The seat of this organ, the existence of which is now a thoroughly established fact, will be shown in the proper place. It is only necessary to say here that it was remarkably large in the poor cripple, Thomas MacDermott. And he was also remarkable for a superior development of the organs of the internal senses of Form, Size, and Weight, or resistance, without the co-operation of which the plans of constructiveness could not be dexterously manipulated.

But, after all, these organs are only instruments of the will, without which its desires and aspirations could not be fulfilled. Its original and permanent seat must, therefore, be looked for elsewhere ; and there is reason to feel assured that it is central, for, as the organ called Eventuality is, as will be shown hereafter, the region of

the forehead wherein resides the power of perceiving phenomena, whether these be of the external world or of the inward workings of the mind itself, so must it be the seat of consciousness and of the conception of the entity Self, for these are mental phenomena. The will, too, is a phenomenon, and as it is the direct offspring of self it must have its source in the organ that takes cognizance of self. Now, since the organ which perceives phenomena, as they are conveyed to it through every other organ, according to the nature and capacity of each, must, like the others, take pleasure in its own activity, it is from it that the will to set them in motion, in order to reproduce those phenomena that may happen to be most gratifying to the entity self, must naturally spring. These organs are its proximate diversified agents, its remote ones are the nerves and muscles of voluntary motion. But its control over the latter depends upon the efficient action of the former, as has been clearly shown to be the case in the instances of singing, whistling, and manual dexterity.

But if singing and whistling depend upon the action of the muscles of the glottis, or organ of voice, in the one, and upon those of the lips and tongue in the other, when set in motion by the organ of music, which lies in the frontal lobe of the brain, so must the power of voluntarily using the limbs in the act of walking and of directing their course with ordinary steadiness to some object or place, or of causing them to maintain the equilibrium of the body when standing still, be dependent upon other organs of the same lobe of the brain; which organs alone perceive the distance and local position of things, and impart a feeling of the sense of resistance, or of the relative weight of bodies. These are the organs of weight, size.

and locality. But, when non-electric alcoholic liquors have withdrawn from the centre of the nervous system its adequate supply of electricity, and drunkenness ensues, there arise phenomena of a totally opposite kind, for the person suffering from the effects of ardent spirits loses the power of judging the true distance of objects so completely that, in trying to catch hold of things beyond his reach, he loses his balance and falls to the ground. And why is this? It is because the organs above-named have lost through intoxication their power of co-operative action, and the efforts of their muscular auxiliaries become staggering and abnormal. But still volition continues to be exerted long after its co-ordinate agents have lost their guiding power. These cannot, therefore, be the primitive source of volition.

And, also, when the perceptive and reflective organs of the intellect have lost for a while, through inebriety, their powers of combination and concentration, there still exists some wakeful indications of volition. And are there not, according to the evidence already adduced, strong grounds for feeling assured that the seat of this attribute is the organ that takes cognizance of phenomena, and which is named Eventuality.

The functions of the cerebrum come now to be considered. But before entering on the treatment of its various organs it is useful to state that that body consists of two hemispheres, and that each of these is composed of three parts, which are called basilar, coronal, and frontal lobes. The basilar again admits of subdivision into the lateral and posterior lobes.

Though there are distinct lines of demarcation between these lobes, yet parts of them, the most remote from each other, are intimately connected by medullary bonds

of union, called commissures, which traverse the interior of the brain in great abundance from the right hemisphere to the left. And thus is maintained unbroken the harmonious co-operation of these, its two grand divisions. Besides these there are two longitudinal commissures, one over and the other under the great transverse one, which is called the *Corpus callosum*. These two stretch along from the anterior to the posterior lobes, and form connecting links between the white fibres of these lobes, which spring from the grey vascular portion of the convolutions that constitute the surface of the brain. The under one, moreover, bends downwards at its back part, and then proceeds forwards into the substance of the middle lobes, as well as backwards into the posterior lobes. This body is termed the *Fornix*: and it springs from two sources in the dark grey substance which exists in the interior of the optic thalami, or the great inferior ganglia of the brain. And these two parts or pillars of the fornix, by coalescing in its central portion, form also an union between the two sides of the brain. There is, likewise, a white cord, about the thickness of a crowquill, which expands at its extremities in the substance of the middle lobes, after traversing the striated bodies, or great superior ganglia, which contribute largely to the forming of the frontal and superior cerebral convolutions. There are other small connecting links between the two hemispheres, the most remarkable of which is perhaps the pineal gland, about the size of a small pea, with its medullary thread-like appendages in the very centre of the brain. Indeed, this commissural system extends through the whole course of the spinal marrow: but it is most conspicuous in the interlacing fibres of the medulla oblongata.

Now, since the middle and posterior lobes consist of the organs of the lower propensities, and as the moral and religious sentiments have their appropriate seats in the superior ones, while the forehead is undoubtedly the exclusive seat of the intellectual faculties; since such is the fact, these commissures cannot be too highly prized; for they serve to produce, with perhaps more than electric rapidity, the co-operation of organs that are remote from one another, and that differ intrinsically in their attributes, but which, when acting in co-ordinate unison, give rise to the harmonious association of our ideas:—

“ For, as oft as a feeling but touches one link,
Its magic will send it direct through the chain.”

PHILOPROGENITIVENESS — PARENTAL LOVE.

JUST above the cerebellum, in the median line, and covered by the upper part of the occipital bone, lie convolutions, which form, in various degrees of prominence, what is vernacularly called the poll of the head. In mankind this part is characteristically more salient in women than in men; and in females than in males all through the animal kingdom. Now, since the woman's head is known to be smaller than that of the man, not only in regard to its entire bulk, but also to its special organic sub-divisions, with the exception of the part just described, it will throw light upon the object we are trying to find out, to ask ourselves, what attribute of the mind it is which appears characteristically stronger in women than in men. And can there be any hesitation in admitting that the love of offspring is the attribute we are in search of?

Now, as the superior largeness of this region of the brain in woman tallies with the paramount intensity of her parental love, there is thus afforded strong presumptive evidence to show that the function assigned by Gall to the convolutions of the cerebrum, seated in the median line, and just over the cerebellum, is the correct one.

But when it is an established fact that this coincidence of function and special organic development is constant, as the reports of truthful observers, whose successive labours have been conducted with scrupulous exactness over a period of sixty years, abundantly show; reports, too, be it borne in mind, which are sustained in all their integrity by facts in natural history—when such is beyond question the case it cannot but be regarded as a palpable fact. Pathology, too, yields positive testimony as to the stability of the conclusion come to by phrenologists in regard to the true locality of the organ of philoprogenitiveness.

I will now adduce two very marked pathological proofs, which will, perhaps, serve to raise strong convictions in the minds of scientific physiologists and psychologists of the correctness of Gall's notion respecting the real and exclusive function of this part of the brain. And may these proofs also stand before them as trustful beacons to lead them to the unprejudiced investigation of all the rest of Gall and Spurzheim's discoveries in regard to the plurality and special attributes of the cerebral organs.

Many years ago a lady of large fortune had to accompany her husband, whose health was failing, to a distant part of the country for change of air. But so great was the intensity of her maternal love that she could not be persuaded to leave home, even upon such a serious occasion, without bringing her numerous family of children along with her, although there was everything prepared for their comfort and happiness at her own residence, where they could have been left in safety, under the care of their near relatives during her temporary absence. On her journey she stayed a few days in London, and appeared to be free from any ailment. One night, however, after partaking of some amusement,

she went to bed without any appearance of being unwell; yet she was found dead in the morning. A *post mortem* examination was made under the eye of the most eminent surgeon of the time, which resulted in the fact that the brain was found to be healthy in every part of it, except in the middle portion of the posterior lobe, where its convolutions lap over the centre of the cerebellum. And there to the extent of two inches in width and one in height, the structure of the brain was greatly altered. It had degenerated into a soft, semifluid mass. The diseased condition of these parts was necessarily the result of inordinate circulation of the blood through them; and this state of things is always accompanied by paramount and vast increase of heat in the minute bloodvessels that permeate that most delicate of all the tissues of the body. No wonder then that this augmented heat and fullness should, ere long, be followed by disorganisation of its natural structure.

Another instance of ardent parental love was evinced by a poor washerwoman, who lived in the neighbourhood of the Strand, in London, some twenty-five years ago. She had an only child who, when he was old enough to be able to serve her by his labour, thought proper to enlist as a soldier. Nearly heartbroken at her loss, the bereaved creature vowed that she would work to the utmost extent of her strength, so that before her death she might be in a condition to purchase the discharge of her beloved child. With this object in view, she lived in the most frugal way, denying herself even such little comforts as she could afford to have. By this means she was enabled to put by a sum of money sufficient for her warmly cherished purpose—and then died, shortly after having had the joy of seeing her son restored to

her. The cause of this poor woman's sudden death was also softening and destruction of the organization of the convolutions which comprise the organ of the Love of Offspring. Externally, this part of the head was extremely protuberant.

Philoprogenitiveness is remarkably large in the cast of the head of Margaret Nicholson, who was confined many years in Bethlehem Hospital, for her insane attempt to assassinate George the Third. And it was supposed that her crime was owing to her mind having become distracted on account of her son, who was a soldier, and had, as she imagined, some cause of complaint against the military authorities (see Plate 5).

Speculative philosophers have assigned various motives as the primary excitants of this affection. But, since those motives could only strike a mind capable of reflection and wise forethought (which differs from the instinctive prevision of insects and of all other inferior animals), it is obvious that an affection which we possess in common with those animals cannot take its rise from such motives. It is not the sympathy caused by active benevolence for feeble helplessness, either, which can originate it; for we find the most tender care taken of their young ones by some of the most ferocious of the brute creation. The sheep and the gentle fawn are not more tender in the treatment of their offspring than the lion and the tiger are of their cubs. Nor is the gentle pigeon so fond a mother, or so careful and kind a nurse, as the fiery and pugnacious game-hen. Nor does the sanguinary, carnivorous eagle yield in tender care for her little ones to the harmless turkey. Gall mentions a species of spider that carries its eggs on its back for safety; and the instinctive care taken of their *ova* by

ants, when their habitations are rudely torn up, has often been observed. Bees and wasps become formidable assailants should their hives and nests be threatened with danger, when they are sedulously engaged in taking care of their young.

Some birds manifest this instinctive propensity more strongly than others. The quail will suffer the approach of the reaper rather than abandon her young; while, on the contrary, the cuckoo lays her egg in some smaller bird's nest, and takes no further care of it. This bird is a neglectful parent and an ungrateful foster-child; for, as soon as she is reared by the smaller bird, she forcibly expels her nurse and her young ones, should there be any, from the nest.

It may here be observed that, although the skulls of the partridge and the cuckoo are about the same size, and closely resemble each other in their general configuration, there is still a difference between them in a certain part of the skull which could not fail to strike the eye of the most careless observer. This difference consists of a palpable depression in the skull of the cuckoo, and of a remarkable protuberance in that of the partridge, precisely at the part of the head which corresponds to the centre of the posterior lobes of the brain, lying immediately above the cerebellum, and which is the spot designated by Gall as the seat of the organ of parental love.

When this propensity is strong it gives rise in the human species to the instinctive display of ardent affection for young children; and many a time has an utter stranger to an infant evinced more anxiety for its protection, and more activity in ministering to its comfort and happiness, than its own mother, who has not been

blessed with an adequate endowment of this organ, the function of which is one of the most important and delightful attributes of the mind. And it is certain that the true source of this seemingly unnatural contrast can be, and has been, traced to the largeness of the hindmost convolutions of the brain in the one case, and to their smallness in the other.

Such a fact as this might lead one to think that the love of the young would be a more suitable appellation for this affection than the one adopted by Gall, if what has been observed in the conduct of inferior creatures did not impress the mind with the conviction that in its most abstract state its function is confined to the love of offspring.

The partridge, for instance, is tenderly attached to her own brood, but she will not take care of the deserted brood of any other bird, while the common pheasant is ready to nurse strange nestlings as if they were her own. A favourite cat had her only kitten killed by accident in her absence, and another of the same general appearance was procured from a neighbour, and laid, after the lapse of a very short time, in the place of her own. But she would have nothing to do with it. Hence it would seem to be certain that parental love properly designates this propensity. It would, also, appear to be a physiological fact that this affection increases in intensity towards the close of parturition, as the following circumstance seems to attest. Two cats, mother and daughter, always continued on the most friendly terms with each other, until, on one occasion, during the approach of parturition, the old cat became spiteful towards the younger one, but, as the final hours drew nigh, she acted towards her as if she were a young one newly born to her.

And is it not a wise provision of nature, gradually to imbue a special portion of the brain with more intense activity at a time when its energies are to be more vitally tested than on ordinary occasions? It is also to this partial excitement of a particular part of the brain of migratory birds that their instinctive wanderings, at stated times, can alone be attributed.

Parental love is characteristically stronger in women than in men. In early childhood, this disparity is evinced by the affectionate craving of girls for the possession of dolls, and in the total rejection of such playthings by boys. Amongst the lower animals this fact is still more apparent, because of their being unendowed with those high moral attributes, which in man are, in some degree, capable of compensating for the comparative inactivity of the instinct called Love of Offspring. And the difference in the prominence of this part of the brain between the male and female of the same species of animal is perceptible to the practised eye of the phrenologist who has extended his researches into the sphere of these lower creatures.

In the dolphin the skull of the female, though a little smaller, is, in its contour at first sight, exactly like that of the male; but a closer inspection will convince any one that the central part of it, just over the cerebellum, is fuller in the female. The same difference between male and female may be seen also in the porpoise, the seal, and many other animals.

In monkeys this part of the head is much developed. In some species, the posterior lobes actually project beyond the line of the cerebellum. In the little capucine, for instance, this projection is very obvious. And who can deny the excessive fondness of monkeys for their young?

This overlapping of the cerebellum by the posterior

lobes of the brain in monkeys is so palpable that it is surprising their assumed absence should have been adduced as an instance of the wide space which separates the human race from every other animal. But, though such is the case in the monkey tribe, it is different in others. In the cat and dog, for example, there is a complete absence of this overlapping of the cerebellum. Supposing, for a moment, that this apparent dissimilarity of organic form is a special mark of distinction between man's nature and that of all other animals, save the monkey tribes, it would follow of necessity that the monkey bears a relationship to the nature of man which has been denied to all other animals. But is it true that the posterior lobes of the brain do not exist in the lower animals? No. Such is not at all the case; although the absence of the overlapping would lead any one, unacquainted with the source from whence these posterior lobes of the brain proceed, to feel persuaded of their non-existence. A few words will suffice to clear up this obscurity.

"In mammiferous tribes," says Spurzheim, "the cerebral crura are evidently divided into two parts, namely, an anterior and external, and a posterior and internal mass. Two superficial furrows mark their limits respectively. They bear no regular proportion to each other. In the human kind, the anterior and external portion composes two-thirds, at least, of the entire crura, but in the lower animals, the posterior is, by much, the more considerable portion of the two."

Now, since it is anatomically certain that these posterior and internal divisions pass on to form the posterior lobes of the brain, after having acquired a great augmentation of bulk in their passage through the thalami; and as these divisions of the crura, and also of the thalami, are

proportionately much larger in the lower animals than the anterior, which go to form the frontal and superior lobes, it follows that the lobes which are supposed to be wanting in these creatures must not only exist, but be even larger in relation to the anterior and superior portions of the brain than is the case in the human kind, wherein the anterior divisions of the crura compose, at least, two-thirds of their whole bulk. These anatomical facts explain the relative superiority, as to size, of the frontal lobes of the brain in mankind; and their relative inferiority in the brains of all the lower animals, not excepting the orang-outang, chimpanzee, or gorilla.

But the presence of these unequal divisions of the crura cannot belong to mammiferous animals alone; for birds and reptiles possess the crura, and also parts closely attached to these, which Spurzheim positively avers to be strictly analogous to the thalami and corpora striata. The posterior lobes of the brain, of which the larger divisions of the crura are the nucleus in animals that suckle their young, must, therefore, exist in birds and other animals that are not mammiferous. A similarity of function in all of them must be the necessary consequence; and long experience proves infallibly that the degree of ardour evinced by animals in the taking care of their young depends upon the greater or less development of the central part of the posterior lobes of the brain. And, as this care devolves, especially in the helpless hours of infancy, upon the female parent, it has been the will of the Creator, who sees fitness in all things, to bestow upon the female those mental and bodily characteristics which render the love of offspring a dominant ingredient of her constitution; and the nurturing of it, moreover, a source of gratification so

intensely charming, that even painful and harassing disquietude fails to imbue it with a tincture of irksomeness.

Many a time, however, has the central part of the poll of the head been found very prominent in some men, and poorly developed in some women. In such cases the lukewarmness of the latter, as regards the affectionate care of children, and the glowing tenderness of the former are always conspicuous.

Amongst aboriginal races, the Esquimaux in the frigid zone, and the Negroes in the torrid, are remarkable for the strength of their parental love; and the prominence of this organ in their skulls is a marked characteristic. In those of the Sandwich and Friendly Islands, on the contrary, there is a remarkable deficiency in the development of the same organ; and is there not written evidence to show that care for their children is comparatively a weak attribute of their character? The skulls of Peruvians of the Inca race present the like conformation, even where there appeared no sign of artificial pressure having been used. And is it not recorded that child-murder was a prevailing crime among the lower order of that sensually-disposed, but yet gentle, docile, and singularly devotional people? Having many times scanned such a number of these Peruvian skulls as would warrant any one in coming to the opinion that they offered a true representation of the form of head by which this race of men was characterized, and having taken outlines of many of the highest class, I am bound to say that the cerebellum was large, and the organ of the Love of Offspring small, both absolutely and relatively, in all of them. And, accordingly, to so great an extent did this heartless vice prevail that, in order to

curb it, the ruling powers found it necessary to raise foundling hospitals.

Since, then, the posterior lobes of the brain do, to a certainty, exist in all animals that take care of their young, and as the convolutions, which lie in the centre of those lobes, just over the cerebellum in the human race, are proved by an overwhelming accumulation of facts, both positive and negative, physiological and pathological, to be essential to the manifestation of that powerful affection of the mind called Love of Offspring, it follows that the same, or rather analogous convolutions, from being relatively larger in the lower animals, than those of which the frontal and superior lobes are composed, must act in them with even more concentrated intensity.

But, as the young of animals very soon acquire the power of providing for themselves, parental love soon ceases to be necessary for their safety, and from the absence of intellectual prospectiveness in the parents all signs of the presence of this powerful instinct totally disappear.

In mankind, on the contrary, this feeling is lasting and almost indelible, because, unlike animals, man's thoughts are retrospective as well as prospective, and, moreover, he alone is endowed with affections, both moral and social, the emotive warmth of which nourish the ardent love which it is the privilege of Philoprogenitiveness to engender.

The few following examples will serve to illustrate that fact.

The skull of the poet, Burns, which was exhumed more than twenty years ago at Dumfries, and recommitted to its last earthly resting place after a faithful cast of it had been taken, exhibits a protuberant organ of Philoprogeni-

tiveness, and the feeling, of which that is undoubtedly the symbol, was a marked feature of his disposition.

The same organ is small, and even somewhat depressed, in the fine scull of Humphrey, Duke of Gloucester, called the "Good Duke Humphrey," who, while his nephew, Henry the Sixth, was a minor, was guardian of the kingdom, in consequence of the absence of his elder brother, Bedford, the Regent, who was then carrying on war against Charles the Seventh of France, and in which war, after many successful achievements, he was foiled through the almost miraculous interposition of the enthusiastic and patriotic Maid of Orleans, and by the rupture of his alliance with the Duke of Burgundy, which was caused by Humphrey's rash pertinacity in seeking for the hand and the inheritance of Jacqueline of Bavaria. The form of this scull is fine, and it is in all its features a marked instance of the truthfulness of Phrenology. And may it not be surmised, therefore, that carelessness in the display of warm affection for his infant nephew and sovereign, owing to the smallness of this organ, had exposed him to the suspicion of disloyalty, which was raised against him by his jealous and implacable enemies (see Plates 5 and 11).

Like Burns, George Crabbe, the poet, was a striking example of parental love, and the same organ is very salient in the cast of his head (see Plate 2). In the scull of Swedenborg this organ projects greatly, and he was very fond of children.

INHABITIVENESS.

AMONGST those instinctive domestic affections, which mankind inherits in common with animals, the sense of local attachment is one which exercises a powerful and salutary influence upon the welfare of society; and that it is a feeling distinct from all others there is abundant evidence to show. But, though its essence is unchangeable, its form and complexion become—the one more expanded and vigorous, the other more bright and glowing, both of them more heart-felt and enduring, according to the strength and character of the feelings which may, on special occasions, be acting in concert with it. The fond remembrances engendered by parental and fraternal love, and fostered by affectionate attachments, as well as by reverence for what has passed away, fill the heart with an intensity of emotion on revisiting one's native home, even though its deserted and desolate state should render those emotions sorrowful in the extreme, which the mere sense of attachment to a casual dwelling-place, without such joyful associations, could never produce. Again the sense of local attachment, expanded into the love of one's native home, assumes still more sublime dimensions when it manifests itself in an intense love of one's native land.

What a beautiful and pathetic description of this affection of the mind is to be found in Oliver Goldsmith's exqui-

site poem, "The Deserted Village." And Homer himself denounces any man who loves not the land of his birth, as being devoid of all the social affections and of every other good quality, and brands him, indelibly, with the stainful name of heartless outcast.

Sir Walter Scott, admirable in everything, both moral and intellectual, shows his sense of the heartlessness of such a man in a passage commencing thus—

"Breathes there a man with soul so dead,
Who ne'er unto himself has said,
This is my own, my native land."

The following lines of Thomas Moore's were prompted by this feeling, when acting with a high degree of intensity—

"Wert thou all that I wish thee, great, glorious, and free,
First flower of the earth and first gem of the sea,
I could hail thee with prouder, with happier brow,
But oh! could I love thee more deeply than now?"

It is obvious that this feeling is a stimulating ingredient in the composition of a virtuous, unselfish, patriotic mind. Its existence is, in some degree, essential to the stability of nations. Without it the tendency to wander from place to place would be a hindrance to the permanent settlement of communities of men in particular localities; if, indeed, the desire to possess property in land, and the disposition and industry to cultivate it, did not, of themselves, serve to counteract nomadic tendencies. Still it should not be inferred from the wandering habits of some tribes of men that they must necessarily be deficient in the love of home and country. For the Arab of the desert loves his native land, though he is an habitual wanderer. But may not his roving disposition be attributed

to the utter barrenness of his country, which affords no field for the cultivation of the soil, and not to the weakness of the sense of attachment to a particular place of residence. Neither can it be thought, in the Arabian's case, to proceed from want of intellectual capacity. The Australian tribes, in whose skulls the organ now under consideration is commonly well developed, seem to be permanently attached to a certain range of country; but they frequently shift their habitations, though, unlike the Arabian desert, their land is productive. This instability is caused by the natural poverty of their intellectual faculties, which renders habits of industry irksome to an extreme degree. And the form of the native Australian brain is in palpable accordance with this marked mental inferiority.

That attachment to one's native home is quite distinct from the sense of attachment to relations and friends, is well exemplified in the conduct of a poor but decent widow, a native of Limerick, of the peasant class. When considerably advanced in life, this woman was induced to emigrate with some of her nearest relations to the United States. There, by their industry, her life was rendered comfortable. But after some years her longing to come home was so great that her friends consented to let her go, and she returned. But after the lapse of some time, when a fresh "exodus" was taking place, she again emigrated from a fond yearning to see once more her beloved relations. With them she stayed until the greatness of her age clearly showed that her end was approaching. Then it was that her ruling passion was evinced in its palpable distinctness; for she insisted on returning to her native place to see it once more and die there, in order that her remains

should be commingled with its soil. But, seeing the affectionate Celtic nature of this woman, whose name was Connor, it is probable that fond recollections of beloved ones, long since dead, might give rise to a desire to be united with them in the grave, for thus she would be satisfying two dominant attributes of her nature—attachment to her native home and love for her blood relations.

So intensely affecting is this primitive feeling that even suicide has been recorded as the result of its irreparable disappointment. Some years ago a case of the kind happened in London.

During the coronership of Mr. Wakley, an inquest was held on the body of an old woman who had committed self-destruction; and the only motive to which the act could be ascribed by her associates was the fact of her having fallen into a state of intense grief when she ascertained that the house which she had for a long time inhabited was about to be pulled down.

The separate existence of this feeling being obviously an indubitable fact, there must be a special organ to manifest it. Where should we expect to find this organ? Where so likely as in the midst of those of the domestic affections, that are located in the back of the head? It was amongst them that Gall discovered it; and it is there that Spurzheim, Combe, and all subsequent investigators have found it. It lies just above Philoprogenitiveness, and below Self-esteem, and it has Adhesiveness on each side of it. Its convolutions touch, also, upon Love of Approbation. It is sometimes flat and sometimes protuberant, and bears no fixed proportion to any of the organs with which it is surrounded.

Several remarkable examples of the invariable connexion

which exists between a protuberant development of this organ and an ardent sense of local attachment shall now be given. And it is especially worthy of note that some of them afford palpable and demonstrable evidence of the erroneousness of the hypothesis which has attributed to this organ the important mental attribute called Concentrativeness, or that talent which empowers an individual to concentrate and harmoniously combine, in unity of action, two or even more of the intellectual faculties, so far as to bring them to bear, with co-operative energy, on some one special object.

An artisan in the employment of the late Mr. Deville, of the name of Lydiard, was endowed with a very large development of the organ in question; and he was equally remarkable for the uncommon strength of his attachment to a house which he had lived in for some years.

To better his condition he was, with much reluctance, induced to sell this house. He then settled himself (as he fancied for the rest of his days) in a place far more suited to his wants. But he soon got tired of his new abode. And, so imperious did his unreasonable longing to get back to his old residence become, that he could not rest until he prevailed on the person then in possession of it to give it up to him, even though the premium he had to pay was much larger than the sum he had himself got for it. But, on the other hand, so utterly destitute was this poor man of the talent of concentrating his faculties towards the perspicuous elucidation of an incident which was entirely free from complicated details, that he very narrowly escaped the suspicion of being a prevaricator, and even the censure of the magistrate at Bow Street, while giving evidence as parish constable respecting something which happened in the street on the

previous night. And yet it is true that this man bore an honest name in all his dealings (see Plate 8).

The organ is extremely large, also, in the cast of Joseph Hill, a porter in Mr. Deville's service. Yet this man's total inability to concentrate and arrange his ideas was strikingly apparent to those with whom he conversed. So marked, indeed, was his incapacity "to maintain two or more powers in simultaneous and combined activity, so that they may be directed towards one object," that he could not be entrusted to carry two messages at the same time, for he was almost, in every instance, likely to confound them. A striking instance this to shew that the faculty of intellectual concentration does not depend upon the action of this part of the brain, as some have supposed. But in regard to the sense of local attachment no one could feel more intensely. On one occasion, when this man was dusting busts in Deville's gallery, and I happened to be there, he brought me a cast of his own head, and asked me what I thought of a small excrescence which lay near this organ. Here he was evidently blundering as to the identity of the organ. Having told him that it was only a wen, and that it had nothing to do with the character of the mind, I called his attention to the remarkable prominence of the part lying just beneath Self-esteem, and asked him how he felt at leaving a house in which he had for some time resided. He said that he had felt sorrowful at having to change his place of abode, that he had had two lodgings for thirty years, that he had lived only two years in the first, and that he was still living in the second, which was a wretched one, yet he preferred to stop in it, he said, rather than change it for a more comfortable place. On my having asked him why he left the first place so soon,

his strange reply was that he believed there was a devil in it, and, but for that, he thought he should have stayed there to the day of his death.

The cast of Sir James Scarlett, afterwards Lord Abinger, affords a striking contrast to those of Hill and Lydiard. Yet it presents additional evidence of the fallacy of the notions entertained by phrenologists, respecting the concentrating power said to be an attribute of this organ. It once happened that Deville, who took this cast himself, was so struck by the relative smallness of this particular portion of that large and well-formed head, that he drew the attention of some leading barristers, who used to go the same assize circuit with Sir James, to the fact, and stated at the same time that he felt assured the function of this organ was nothing more than the sense of local attachment, though some conjectured, and many would insist, that it was the instigator and supporter of intellectual concentration. This case, said they, certainly corroborates your conviction, for brother Scarlett was remarkable for his disinclination to return, during assize time, to apartments which he had previously occupied, whilst, on the other hand, he was universally considered by his legal brethren to possess more concentrated adroitness and tact than any man at the Bar in seeing the proper moment to stop in the direct examination of his own witnesses, so as to elicit as much information as would serve to establish his client's case, without going so far as to afford an opportunity to his opponents of benefitting much by cross-examination. As a *nisi prius* pleader he certainly held the first place. Let this signal fact be compared with the remarkable cases of Hill and Lydiard, and then it cannot fail to be seen how baseless is the fabric of which this hypothesis, as regards

Concentrativeness, consists ; and how heterogeneous and incongruous are the ingredients of which it is composed.

It may be interesting to add that in the cast from nature of the late Sir John Franklin the same part of the head is but very moderately developed. And it is not improbable that, at his advanced time of life, he would not have ventured on his last and fatal expedition had he been endowed with a large development of the organ of the Love of Home, notwithstanding his hopeful and enterprising disposition, as well as his instinctive passion for exploring strange places, engendered by a very large development of the organ of Locality. And it is to be noted that the faculty of intellectual concentration was possessed, in no common measure, by this skilful commander and director of the actions of several men in the most perilous and cheerless situations, and the esteemed literary narrator of his own adventures.

The organ of Inhabitiveness is exceedingly prominent in the cast of an enterprising sailor of the name of Lyde, who was master of one of Enderby's whalers ; and so remarkably strong was his attachment to his accustomed habitation that, when he was only a mate, he refused to accept the command of a ship far superior to his own, rather than leave the one he had served in from the commencement of his maritime career ; and which, he said, he looked upon as his home. After waiting in his subordinate position for three years, he was gratified with having the command of his favourite ship conferred upon him. When Deville was preparing to take a cast of his head, Lyde further said that what he had always longed for most was to get together as much money as would enable him to return in a state of moderate independence to his native place ; and that he was then

going to spend the rest of his days there. His younger brother, who was present, said he never could account for his brother's attachment to a particular ship. All ships, allowing for their quality, were the same to him; and he would consider it great folly on his own part to refuse promotion as his brother had done. In the cast of this young man the organ of Inhabitiveness, as Spurzheim has denominated it, is but moderately developed (see Plate 8).

To maintain one's equilibrium in high and perilous positions was supposed by some to be a function of this organ, because it was found to be very prominent in the celebrated equestrian, Ducrow. But as both these brothers were equally noted for the capability of maintaining their balance in the highest part of the rigging, even in a heavy gale, this conjecture, also, was based on an insecure foundation. It may be remarked here that the development of the organ of Weight, or of the sense of equilibrium, was very large in these two brothers.

At the risk of unnecessarily accumulating affirmative evidence, I cannot refrain from adducing one instance more of the invariable coincidence of ardent love of one's native place and a very large development of this portion of the brain; especially as the cast referred to is an interesting test of the truth of Phrenology in a variety of its phases. The case fell under the notice of that acute observer and most skilful practical phrenologist, Deville, about forty years ago, at a public exhibition of the extraordinary musical performance of the Infant Lyra on the harp. After Deville had made some remarks upon the fine development of the organs which impart a genius for music in the head of that child, a gentleman present (Markwick by name) said "he

wondered how any one could believe in such stuff as Craniology." Deville observed that that remark applied to himself in an especial manner; for he had already spent much of his time and considerable sums of money in accumulating facts with a view of testing the truth of the science. "And," said he, addressing the objector, "I venture to say, sir, that you have a strong propensity for travelling." After admitting the truth of the prognostic, this person asked if there were any other propensities of his nature which could be discovered by his "bumps." After examining his head, which was a very fine one, and telling him he was a man capable of making his way through the world successfully, even if left solely to his own resources, Deville said he perceived a very large development of a part of the head, the true function of which was not then thoroughly established, but which he himself looked upon as the organ of the Love of one's Native Place; and then told him that this was a propensity which was likely to clash with his strong desire to travel. "Well," said the other, "I will now tell you that at eight years of age I was left to shift for myself; and that in that trying position I have always instinctively striven to conduct myself as you say I am naturally disposed to do. And I have been successful in my undertakings. My propensity to travel is great. I have been several times to Canton in a ship of my own, without being under the necessity of going there at all; and have seen most parts of Europe. But yet my delight in travelling was marred by a feeling which sometimes resembled home-sickness; for, if I felt seriously unwell while abroad, I was unhappy at the possibility of my never again beholding my native country; the shores of which

I never quitted without looking back towards them, like Lot's wife, with sorrowful emotion." This good man's sense of local attachment was so dominant a feature of his character, that he never left without regret places where he had rested but for a short time (see Plate 2).

In this case the organ of Locality was extremely large, and that of Inhabitiveness was one of the largest to be met with in Deville's collection of nearly three thousand casts of heads and skulls. From the orifice of the ear to the centre of the organ measured six inches, while five inches included the same region in the head of the lamented Sir John Franklin.

Indeed it is admitted by all phrenologists that the sense of local attachment is without doubt a function of this part of the brain.

Some, however, of the most distinguished of them have, as has been already noticed, long held the conviction that there inhered in this same cerebral region the faculty of intellectual concentration.

It will be seen at once that there does not exist the slightest affinity between the simple affection of man's animal nature, called Inhabitiveness, and the high intellectual qualities that have been and still are supposed by many to depend upon the salient development of this one organ.

Seeing this irreconcilable discrepancy, the advocates of the existence of a single organ, specially devoted to the combination and harmonious association of the intellectual powers, and which they have denominated Concentrativeness, were forced to conclude that the portion of the brain which occupies the space between the organs of Self-esteem and Philoprogenitiveness must consist of two organs instead of one, as they at first supposed.

And they now positively aver that that of Concentrativeness lies next to Self-esteem, and just over Inhabitiveness.

But when it is a palpable fact, as may be seen by means of authentic diagrams, that the upper portion is only of moderate size in the head of Fuseli, the famous painter and lecturer on art; and in Denon, the artist, traveller, and successful author; and in Benjamin Constant, the orator and leading political writer; and in Scarlett, the renowned lawyer and advocate; and in Godwin, the deep-thinking and strikingly imaginative philosopher and novelist, whose subtle and refined casuistry was made clear by the eloquent perspicuousness of his style, even to minds of ordinary comprehension—when such facts as these present themselves the reason for the sub-division of this organ falls to the ground. Nor can its resuscitation be ever hoped for, when it is a well attested fact that the same region of the head, both in the upper and lower portion of it, has been found to be extremely large in persons who possessed not one of the mental qualities which have been thought by some phrenologists to be the necessary result of the largeness of this part, except the sense of local attachment—a propensity which was manifested, in some instances, to a preposterous extent, as has been already demonstrated. When such is the case a thorough conviction of the inaccuracy of the notion which led to the sub-division of the organ in question, must strike every inquirer.

It is well to note that this particular region of the head is very prominent in the fine busts of the celebrated Lord Chesterfield and the poet Pope, by Rubilliac, and that it is very large also in those of Lords Mansfield, Grenville, and Erskine, by Nollekens, as well as in those

of O'Connell, Thomas Moore, and Henry Grattan, in Henry Flood and Lord Plunkett, in Canning, Huskisson, Sheridan, and Sir W. Scott, and in the casts and busts of a vast number of other renowned, intellectual characters. Granting this to be really true, are the advocates of this organ of Concentrativeness entitled to produce these instances as facts in proof of their theory? By no means is such an assumption to be allowed by any one, who will have carefully examined and weighed the incontrovertible testimony afforded by the facts already stated and demonstrated. And can there be the slightest doubt that these leading spirits of their time were warmly and patriotically devoted to the service of their native-land. And is it not reasonable to suppose that they were men who felt strongly attached to their birth-place, and even to their habitual place of abode? An anecdote told of one of the greatest and most patriotic of them all is an interesting attestation that the love of home, of one's own fireside, blazing in some specially beloved locality, was, in all probability, characteristic of all of them.

It happened on a time, when Henry Grattan was entertaining some friends at his beautiful seat, Tinnahinch near Bray, that the conversation turned on the salubrity of the spring water of certain country places, and a decided preference having been awarded to one of them, Grattan suddenly left the room, and in a short time was seen coming at a quick pace up the lawn, bareheaded, with his grey hairs blown about by the wind, carrying a glass of water in his hand, and in a moment after he rushed into the parlor almost out of breath, and said, "Come now, taste this water from the Tinnahinch spring well, and you will find that finer water cannot be met

with anywhere." Well might the brief but eloquent eulogium which he once passed upon Charles James Fox be applied to himself, namely, "His heart was as soft as a woman's, his intellect was adamant."

Upon an impartial estimate of the facts, which have been just narrated, can doubt rest upon the mind of any one as to the real function of this organ, or that the talent of intellectual concentration is altogether independent of its concurrence. Yet it is in one respect an organ of concentrativeness. For instance, the intense love of home—of the land of their birth—evinced by some of the above-named men, stimulated them to concentrate their intellectual faculties towards the point, out of which might be extracted the most potent means of rendering their country contented, prosperous, and respected, both at home and abroad. But, even here, it is only an active incentive to the production of intellectual concentration, and not a necessary ingredient in the assemblage of organs upon the combined and harmonious action of which concentration of the intellectual faculties depends, as will, by-and-bye, be clearly proved to be an unquestionable fact: and it is well to state here that this assemblage of harmoniously-balanced organs was a marked feature of the foreheads of these great men.

Indeed, the region of the head which we are now considering has no more claim to the rank of a concentrator of the intellectual powers than any other predominating organ. A large organ of Ideality, or the sense of poetic beauty, for instance, in unison with lofty sentiments and ardent feelings concentrated the whole mind of Burns upon the composition of poetry, while he was laboriously following the plough. Bloomfield, in the shoemaker's garret, and poor John Clare, on the farmer's threshing floor, were led by an over-

powering instinct to pursue the same course. Whilst the strictly utilitarian form of Cobbett's intellectual organs, with a scanty development of Ideality, caused him to concentrate his talents, while on duty as military sentinel, in order to acquire a thorough knowledge of English grammar, a thing which he felt was essential to the effectual promotion of such useful objects as were suggested by his practical but unpoetical genius. And did not the illiterate peasant, Jedediah Buxton, as has been already noticed, evince, on witnessing the inimitable acting of Garrick in one of his most affecting characters, how powerfully concentrative the organ of Arithmetical computation becomes, when, owing to its paramount size, it exercises an absorbing influence over the mind. That the organ of Language may act as a concentrating organ is clearly seen in the case of the poor Welsh sawyer, Jones, the self-taught master of sixteen languages, or more. So concentrated were the faculties of this helpless poor man upon the study of languages, that he completely lost sight of those "accessories" which were essential to the procuring of the bare necessities of life.

It was the singularly large organ of Language in the heads of Buffon, Voltaire, Hume, and Gibbon, that caused them to concentrate their rare intellectual faculties upon literature. But the extremely large organs of Individuality and Eventuality of Buffon also concentrated his powerful intellect with the view of acquiring a knowledge of the objects of the universe in all their minuteness of detail. He was, therefore, less exclusively devoted to what was purely literary than his celebrated countryman, Voltaire, in whose bust, Individuality, or the sense of material things, is comparatively of moderate size. But,

if language acted as a stimulator or concentrator in these instances, it was to the concentrating influence of a very large organ of Music that the enchanting creations of those masters of song, Handel, Haydn, Mozart, and Beethoven, are to be attributed. And in the sublime and beautiful creations of the genius of Raphael and Michael Angelo we find that large organs of Form, Colour, and Constructiveness are the concentrators of their mental faculties, in order to display in painting, sculpture, and architecture the noble thoughts which inspired them. And one may be permitted to add that not even a tyro in the practical department of Phrenology, on seeing the heads of Daniel Maclise and William Vincent Wallace, could be led to suppose that the refined and graceful genius of Wallace would be concentrated upon the delineation of dramatically expressive human forms, whether they are used to tell an affecting incident in the story of Hamlet, or to depict with great force and beauty the heroic career of William the Conqueror; or that the genius of Maclise would lead him to concentrate his intellectual powers upon the composition of such charming operas as *Maritana* and *Lurline*.

A beautiful instance of the powerful influence of terror, which is the painful result of the intense action of the organ of Cautiousness, in concentrating the mental faculties upon a single object, to the utter exclusion of every other, is afforded by the genius of Shakespeare, in the banquet scene in *Macbeth*. Nothing can exceed in earnestness the concentrated attention which that usurper directs to the ghost of Banquo. His faculties are so rivetted upon the object of his apprehensions, that he is not only heedless of the presence of his guests, but insensible of the remonstrances and rebukes of his more determined and less

remorseful lady, so long as the apparition remains in his presence. But upon its disappearance he recovers his self-possession, and exclaims, "Why so? Being gone, I am a man again." And it is then only he gives ear to the voice of Lady Macbeth, when she whispers, "You have displaced the mirth, broke the good meeting with most admired disorder." He is now sufficiently collected to allude to the cause of his perturbation in these words—

"Can such things be and overcome us like a summer cloud
Without our special wonder? You make me strange
Even to the disposition that I owe,
When now I think you can behold such sights,
And keep the natural ruby of your cheeks,
When mine is blanched with fear."

It is also thought by some that this organ, when it is large, renders persons "prone to sedentary habits, and to live, as it were, within themselves; as well as of keeping them habitually occupied with internal meditation, and supporting a vigorous attention; who, in short, have a natural facility of concentrating their thoughts. . . . Who possess a command over their intellectual powers; so as to be able to apply them in their whole region to the pursuit which forms the object of their study for the time; and who, in consequence, produce the greatest possible results from the intellectual endowment which nature has bestowed on them."

It will be useful to dwell a little on this definition, in order to see if any necessary connection can be found to exist between the intellectual qualities just described and a proneness to sedentary habits.

Undoubtedly a proneness to sedentary habits leads to internal meditation; and a meditative tendency is con-

ducive to a sedentary life; and the habitual turning of the mind inward upon itself, or of directing it with vigour to the contemplation of other objects, increases its power and efficiency: but it does not follow from this that the organ of the Love of Home, which naturally would impart a tendency to become sedentary—assuming, for the present, that such is the result of the action of a single organ only—is also that which enables one to combine and arrange the ideas so as to render them eminently useful: for it is quite certain that many persons of sedentary habits are by no means remarkable for vigour of understanding, or the capacity of rapidly combining and concentrating such intellectual faculties as they may possess, even though they are endowed with good reflecting powers. On the other hand, it would be strange, indeed, if the decided smallness of this organ, which, in accordance with its intrinsic character, would cause persons to experience “difficulty in settling,” were also followed by a strong inclination in individuals to engage in some active employment, in which “their attention shall be carried, as it were, out of themselves, and be occupied in external objects and occurrences;” whilst at the same time, its smallness is thought to render them “unable to keep the leading idea in becoming prominence, by causing their thoughts to be lost in dissipation,” and to “incapacitate them for combining their whole powers to a single object;” and also to mar the concentrated directness of their mental productions “by the intrusion of irrelevant ideas, and the unperceived omission of important particulars, arising from the disjointed action of their several faculties.”

Certainly the incapacity for combining and concentrating the ideas is compatible with the existence, in the

same individual, of unsettled habits, and a desire to be engaged in the pursuit of external objects and occurrences. But before it can be admitted that all these mental manifestations are the result of the functions of a single organ of the mind, it must be shown that a desire to be engaged in external objects and occurrences is always accompanied by a deficiency of power to combine the ideas and to direct them with vigour to a particular object. It will not be deemed presumptuous to say that the existence of such a state of things is utterly impossible. It is at variance with all that history teaches us. If such were the case, where would now be the admirable Commentaries of Julius Cæsar?—who was, perhaps, the most perfectly concentrated embodiment of great versatile talents for active employment that has ever appeared in the world—whose literary capacity was hardly surpassed by his genius in the art of war.

What powers of intellectual concentration and combination were possessed by the restless yet contemplative Charles the Fifth of Spain, by Peter the Great and Frederic of Prussia, by Gustavus Adolphus and Wallenstein, by Cromwell and Napoleon; and by those political churchmen Pope Julius the Second and the aspiring Richelieu—to the latter of whom may with truth be applied the words used by the poet Lucan in delineating the character of the greatest of the Cæsars, *Nil actum reputans si quid superesset agendum*. These extraordinary men were all their lives occupied with external circumstances. Their powers of intellectual concentration were of the highest kind.

Should it be said that these great men were so circumstanced that they were compelled, whether they willed it or not, to devote all their mental energies to the conduct

of public affairs, and that, owing to that state of things, they could not pursue the tranquil exigencies of a sedentary life, even though the organ now under discussion were predominantly developed in each of them; and that such cases afforded no demonstrable testimony subversive of this hypothesis.

Now, as the position of this organ cannot be seen in the authentic portraits of these men, no exact information as to the value of that surmise can be adduced from that source; although the parts of the forehead, wherein lie the salient springs, whence issue, in reality, those faculties which have been too hastily ascribed to the paramount influence of this single organ, are abundantly manifested in them, and in all others endowed with superior talents, as shall be, by-and-bye, demonstrated.

But the advocate of Phrenology, who has been untiring in his researches, and whose memory is tenacious of whatever facts he has seen, and who has conscientiously tested them at Nature's truthful shrine, is never, in any case, restricted within the bounds of conjectural evidence, as shall now be shewn by testimony as truthful as it is palpable.

This organ is very large in the skull of King Robert Bruce, whose life was passed wholly and without irksomeness in the active conduct of public affairs, and in heroic efforts to render his country independent. It is comparatively small in the skull of King Edward the Second, who could not be brought, even in pressing emergencies, to give attention to political occurrences, and, with apathetic indifference as to the adverse current of State affairs which threatened to overwhelm him, he abandoned himself to intellectual indolence, and a craving for social indulgences in the society of a beloved favourite.

Now, though the organ called Concentrativeness by some is small in the skull of Edward, it cannot be denied that he pursued the gratification of his desires with unthinking obstinacy and intense concentration of feeling and of thought. But though obstinacy naturally shoots up from the stubborn stock of firmness, its roots were implanted in his case in the more plastic soil of the social attachments, for in his skull the organ of Firmness is very small. The form of Bruce's skull indicates that he too was capable of loving his friend; but yet he loved his country more. Still his well-attested love of his native land bore in its composition a marked proportion of that potent ingredient—self-interest, with which the passive character of the unhappy Edward was not, in any ostensible measure, imbued. And it is well to note here that this diversity of character arose from the largeness of Self-esteem in Bruce, and the smallness of that organ in Edward.

This organ is not a salient feature in the skull of Humphrey Duke of Gloucester, the brother of the hero of Agincourt. And yet no one would venture to say that Bruce, in whose head the organ was so much larger, was more abundantly endowed with the high intellectual qualities, which have been erroneously conjectured to be commensurate with the development of this part of the brain, than the good Duke Humphrey. Indeed, the superior size and the harmonious combination of the organs of the intellectual faculties in the skull of Gloucester precludes the possibility of any one's entertaining such an opinion. Nevertheless, the ample size of the organs of Cautiousness and Secretiveness in Bruce's head rendered him habitually wary and circumspect, and powerfully assisted his intellect in inventing those

subtle devices to which he so often owed his personal safety, and ultimately the attainment of his crown. While the relative deficiency of these organs in Humphrey's head, especially that of Caution, combined with an organ of Conscientiousness, much superior to the same organ in Bruce, caused him, unlike Bruce, to be often wanting in an adequate amount of tact, and exposed him, through the unreserved openness, and sometimes headstrong impetuosity, of his character, to the fatal machinations of his more wily and inveterate enemies. But though the organ we are considering is only moderate in his head, he was remarkable among the leading men of his time for the concentrated comprehensiveness of his understanding, his literary accomplishments, his eloquence, his administrative ability and activity as a statesman; and it must be allowed that he pursued his design of gaining the hand and inheritance of Jacqueline of Bavaria, contrary to the sage remonstrance of his more circumspect and less ambitious brother, Bedford, the Regent of France, with concentrative intellectual and moral energy which very few even of the most renowned men in history could cope with (see Plate 5).

This part of the head is extremely large in a cast from nature of the Right Hon. William Huskisson; and yet he preferred to employ his fine talents in the management of important affairs of State, notwithstanding the turmoil of political life, than to continue in the tranquil pursuits of medical science. While the same part is comparatively moderate in size in the cast of William Godwin, who, after having delivered a few admirable sermons as a public preacher, forsook the cassock, and, though prone to engage in political disquisitions, gave himself up, of

his own instinctive accord, to a sedentary life of literary retirement and comparative seclusion. Nor could any one who saw him, on a fine summer's day, slowly walking in St. James's Park, fail to be impressed with the conviction that his mind was characteristically meditative, and comparatively heedless of what was external to himself.

In the cast from nature of Richard Brinsley Sheridan, who was a remarkable instance of a restless desire to become minutely acquainted with everything passing around him, and also to be mixed up in the conduct of public affairs, this organ is, on the contrary, large. All these men were noted for possessing the faculty of intellectual concentration. But can it be said that Godwin, with the small organ, had less of the concentrative talent than any of the others in whom the organ was large (see Plates 1 and 11).

And, further, it may be averred, as the result of a law of the mind, that an intellect, like Godwin's, which was essentially contemplative, would almost of necessity lead its possessor to choose a sedentary mode of living, from a consciousness that his intellectual faculties were better adapted to shine in the secluded temple of literature than in the public arena of active life, even though this organ were small, whilst the superior aptitude of the comparatively unreflective genius of Sheridan for concentrating his thoughts upon outward objects and occurrences, and of rendering them, in a high degree, subservient to the successful elucidation of his subject, would naturally withhold him from giving way to sedentary occupations, though his literary talents might, occasionally, awaken a yearning for retirement. It would be likely to lead to error, therefore, to infer from the largeness or smallness

of this organ that an individual shall be prone to spend his time in sedentary occupations or not, without first taking into view other leading mental characteristics. Neither should it be supposed that a scanty development of this organ would in any way render a person averse to a sedentary occupation, notwithstanding the well-ascertained fact that smallness of the part evinces the absence of any tendency to remain sedentary as to habitation. For example, the large head of the late celebrated composer of music, William Vincent Wallace, with its fine intellectual development, was comparatively small in the part occupied by the organ of Local Attachment, and though he loved to roam to the remotest regions of the world, and in his habits appeared to be disinclined to dwell for more than a short time in any place, yet he rejoiced in the indefatigable pursuit of a delightful sedentary intellectual employment, in which he displayed much power in concentrating two or more mental faculties in order to produce the harmonious combination of his ideas.

It has been thought that to render emotions permanent is also a function of this single organ. Surely this opinion rests upon an insecure foundation. Emotions are as various as the feelings which awaken them, and the emotional intensity of a feeling is commensurate with the superior size and activity of its own organ. The phenomena of dreaming will serve to illustrate this. During sleep some feelings, from their being recently in a state of intense activity, keep their respective organs in the brain wakeful and even restlessly energetic, and thus are particular emotions prolonged, while all others lie dormant. But who would ever think to maintain that the permanence, during sleep, of the emotions of pride or

humility, of courageous enterprise or terror, of glory or shame, of grief or joy, depends upon the presence of this one organ in its state of somnolence.

It is hardly necessary to adduce tangible evidence in corroboration of this argument. But yet it may be satisfactory to add that the emotion of attachment, glowing in the breast of King Edward the Second for his favourite Gaveston, was as permanent as an emotion could be. And yet, as has been already seen, this organ is small in his skull. It is small in the skull of the missionary priest in Egypt, whom Denon extols for the Christian purity and holiness of his life, and certainly there was no lack of great benevolent and devotional emotion in his conduct and manners. And, except in some cases of monstrous artificial distortion, all the Peruvian skulls of the Inca race that I have seen, and taken in outline, were small and flat at this part of the head, and yet the reverence of that people for their Incas amounted to a powerful and enduring emotion. A fact which is to be attributed to the predominant development of the organ of Veneration, supported by a characteristic organ of Hope.

It has been, I trust, clearly shown that the mental qualities, said by most phrenologists to depend upon the presence of this organ, are incompatible; and been demonstrated, also, in a sufficiently copious series of authentic facts, selected from a vast number of others, equally conclusive, that the strength of those qualities, even if they were compatible, could not in any measure be dependent upon the action of this organ. Numerous instances have been adduced, also, which afford evidence, the most trustworthy and convincing, to show that its true and only function is the sense of local attachment,

modified by other associated affections into the love of one's native home and country. Of these auxiliary affections, the senses of attachment to persons and veneration are the most genuine and unselfish.

Such is the conviction of Gall himself, and of his observant and philosophical disciple and coadjutor, Spurzheim. But it should be observed that Gall calls this the organ of the "Instinct of Height," or that which prompts some animals to choose their dwellings in lofty regions of the earth; because he invariably found it very large in the wild goat, the chamois, the roebuck, and other animals that inhabit high places. And he also says, "I do not know whether this cerebral part undergoes similar modifications in aquatic animals."

Now, suppose that those animals, which dwell in elevated localities, are endowed with a greater prominence of this part of the brain than is possessed by those that inhabit the plains, or than such as burrow beneath the surface of the earth, are we, therefore, to assume that it is to the largeness of it the "instinct of height" is to be attributed? Or would it not be more correct to think that animals which dwell in high and rugged mountains are naturally more averse to leave their native localities than those inhabiting the plains, owing to the superior prominence of this organ? And surely this characteristic prominence of the organ was bestowed upon the chamois and wild goat for a wise purpose.

It was, no doubt, ordained that all places capable of affording sustenance to living beings should be inhabited, sooner or later. And from the meanest animals that exist, up to man with his noble qualities, it is found that each species is endowed with a physical constitution, exactly adapted to the objects by which it is naturally

surrounded. Such is the case with the chamois and wild goat that inhabit the highest parts of lofty mountains, such is the condition of aquatic birds that frequent rivers in the lowest valleys. It is to these idiosyncracies that the predilection of the wild goat for dwelling in very high regions, and that of the horse upon the grassy plains, is to be attributed, and not to the action of this organ. Would it not be more reasonable to conclude that the superior endowment of it, bestowed by a wise Providence upon the chamois and wild goat, was designed to render those animals attached in a super-eminent degree to their native homes, in order that they should not be tempted to stray away to places more inviting, perhaps, but less suited to their necessities, than the inhospitable regions assigned to them for their constant abode? The young duck, to the dismay of its careful foster-mother, the hen, soon after emerging from the egg, will run into the water, and it loves to dwell upon it in consequence of the natural adaptation of its physical constitution to an element which supplies it in abundance with its appropriate food, and not at all through the prompting of this organ. The true sphere of its action would be to wed this creature to some particular brook or sheet of water, which habit has rendered familiar to it, or even to the nest in which it is accustomed to dwell. And as to the instinct which prompts the timid hare to lie in the open heath, exposed to the snares of the hunter, and that which inspires the bold and wily fox to seek shelter in his den, it may be safely inferred that this diversity of choice, as to place of abode, arises from some other cerebral peculiarity, apart from the condition of this organ—such, for instance, as the largeness of Secretiveness in the fox, and its smallness in the hare—and that the sphere of its function

is confined to the imparting of the sense of attachment to a particular den in the fox's case. And is it not a well known fact that the hare, when startled from her form, which is her home, will strain every nerve to return to it, when she is hard pressed by her pursuers? Is this effort of the hare caused by instinctive attachment to her usual habitation?

With regard to the conjecture of Gall, as to the modified action of this organ, it would seem as groundless to suppose that the instinct which prompts the duck to dwell upon the waters arises from such modified action, as to imagine that man, whose whole frame, to the minutest particle of its structure, is adapted to live upon land only, is guided in his choice of the land for his residence by the action of the same organ peculiarly modified.

In mankind, undoubtedly, such cannot possibly be the case. And as a vast amount of incontrovertible evidence has been accumulated in proof of its being merely the organ of the sense of attachment to place in man as this sense is implied in the love of home, there can be no hesitation in feeling assured that in the lower animals, also, its destination is the same, whether they are dwellers on mountains or in valleys, on land or on water.

Nevertheless, some writers on Phrenology, struck by the coincidence of a great development of this organ, and a tendency in certain wild animals to make choice of very elevated regions for their habitations, have been led to think that this part of the head would be found to be protuberant in persons who manifest a strong desire to explore high mountains. But, in disproof of this conclusion it is enough to shew that the organ is rather

small in the cast of the head of a Captain Beaufoy, taken by the late Mr. Deville, and pointed out by him as a palpable fact subversive of that theory. For it was the delight of the gallant captain to ascend high mountains. And it was also stated that he ventured upon at least one ærial voyage.

Does not this case shew that there is no just ground for supposing the "instinct of height" in animals to be a mode of action of this organ? It may be well to say that the paramount size of the organs of Individuality, Eventuality, and Locality in the head of the officer just alluded to was enough to account for his curiosity and propensity to explore strange high places.

And is not this view of the case strengthened by the well-known fact that the domestic cat evinces no special desire to dwell in lofty regions, although the organ in question is characteristically prominent in the skull of that animal? But, on the other hand, does not this fact afford strong corroborative evidence of the truthfulness of the view taken in this essay of the simple function of this part of the brain, for the cat is proverbially attached to the house in which it has been brought up? And this happens irrespective of any striking fondness for its inmates.

It has been observed already in this discourse that a very strong sense of local attachment, or "Love of Home," was bestowed upon some animals in order to reconcile them to dreary and desolate habitations, and to render them contented and happy. Yet it may be asked why it is that the wild goat, for a notable instance, chooses for its habitation the loftiest regions of mountains that are comparatively inaccessible, when it could find good provender for its wants in places contiguous to the

haunts of men, as happens to be the case with the domestic goat, in which animal also this organ is very protuberant.

Is it not reasonable to infer that this characteristic difference as to choice of habitation depends upon a higher degree of docility and gentleness of disposition in the domestic goat? And it is beyond all doubt that in the domestic goat the anterior and superior lobes of the brain, as these are indicated by the form of the skull of that animal, are far larger, both absolutely and relatively, than they are in the wild goat, although the entire compass of the skull of the latter is greater.

And does not the flatness of the eagle's skull, and the corresponding absence of gentleness and docility in the disposition of that fierce bird of prey, offer a sufficient motive for his choice of a habitation, lofty enough to be inaccessible by human efforts, without seeking for the source of that tendency in the prominent development of the organ of "Inhabitiveness," or "The Love of Home."

Surely the numerous facts quoted in this essay, and the inferences drawn from them, prove, beyond question, that this portion of the brain consists of but one organ; and that the true and only function of that organ is the "Sense of Attachment to a particular place of abode;" but especially to one's native home. And it cannot for one moment be supposed, after a scrupulous sifting of that evidence, that the said organ can have the smallest claim to be deemed a necessary ingredient in the compound of organs upon the harmonious co-operation of which the concentrated and combined action of the intellectual faculties altogether depend.

The importance of taking this view of the case cannot

be valued too highly: for if the talent for intellectual concentration is a compound power of the mind and the sure result of the harmoniously-associated action of a number of well-balanced organs, affective as well as intellectual, it is certain that great mischief would arise in the practical application of Phrenology towards the elucidation of the diversified talents and dispositions of men, if it should be taken for granted that any special facility of intellectual concentration would be the necessary result of the ample size of this, or of any other single organ of the brain.

Nevertheless, it is true, as I have already shown, that any cerebral organ which happens to be characteristically dominant, possesses the attribute of concentrativeness; whether it be the exquisiteness of the sense of melody in Mozart and Beethoven, or of form in Michael Angelo and Raphael, of ambition (which is the result of dominant organs of Love of Approbation and Self-esteem) in the Dictators Sylla and Julius Cæsar, of the mechanical instinct in Archimedes, or of the sense of poetic beauty in the peasant poet Robert Burns.

But Concentrativeness, taken in this sense, is nothing more than a simple inciter of two or more other organs to act in unison so as to produce that harmonious association of ideas which is obviously synonymous with intellectual concentration.

To incite two or more organs to act so as to concentrate their energies upon any congenial subject does not confer the power of concentrating them. For many persons evince a very strong tendency to concentrate their minds upon some subject adapted to their special talent, so far as to acquire even a large stock of knowledge in that particular pursuit, but who are, at the same time, incapable

of arranging and combining their ideas so as to transfuse into the minds of others, in a perspicuous and concentrated form, even their own intellectual acquirements. And this happens because the faculty of arranging the ideas, and of causing them to co-operate harmoniously, when essaying to communicate knowledge, either in spoken or in written language, is derived from organs with which such persons are but scantily endowed.

These organs are not specially devoted to the acquiring of knowledge in any department of literature or science. But those organs which are intrinsically occupied in gaining such knowledge, are materially sustained in their efforts and rendered far more effective and continuously useful by the harmonious co-operation of these most important auxiliaries (the organs of the combining and arranging powers), than they are at all capable of being without a fair measure of such aid. Indeed, without an adequate development of these organs, even persons of brilliant parts are, unfortunately, prone to degenerate into desultory habits of thinking and are liable to fall short in the race of intellectual industry.

When the organs of the intellectual faculties come to be discussed it will be seen how important those of Time and Order are to the consistent working of all the others. Indeed, a poor development of these organs is a serious obstacle to useful and productive intellectual industry. They assist continuity of mental action, and produce harmony and method in the operations of the mind. They are the corner stones which support and symmatrize the more exalted portions of the intellectual fabric. Indeed, it is quite certain that even moderately developed organs of the perceptive and reflective faculties, with the harmonious co-operation of those essential adjuncts, are much

more efficient in their own sphere of action than finely developed ones, when these are wanting in adequate support from the organs of Time and Order.

Examples will be pointed out in the proper place to show that the most renowned administrators of the affairs of nations were, all of them, amply endowed with those two organs: and a conspicuous development of the region of the forehead occupied by them is characteristic of the most distinguished speakers and writers of every age and country—men remarkable for the talent of “maintaining two or more mental faculties in simultaneous and combined activity, so that they may be directed towards one object.” And this without the aid of the organ marked No. 3. For in some conspicuous instances of genius, as has been already shown, it is found to be small, while it is often found large where no such intellectual capacity ever showed itself. This talent cannot, then, in any way depend upon the co-operation of that organ. No, not in the least degree. But it is to a fine, absolute, and relative development of the organs named above, combined, of course, with a good and well-balanced assemblage of the other intellectual organs, that we are to attribute the source of the faculty of simultaneously arranging and concentrating upon a particular subject, several powers of the understanding (see Plate 6).

But though fine or, at least, well-proportioned organs of Time and Order are essential ingredients of the compound wherein lies the talent of intellectual concentration, yet they are incapable, in some trying situations, of maintaining the due balance and harmonious action of the intellectual faculties. To illustrate this, let us suppose a man who has paid great attention to a theme, exactly adapted to his dominant intellectual powers, to

be endowed with large organs of Time and Order, in conjunction with well-balanced perceptive and reflective ones; we shall then surely find that he possesses a facility of arranging his ideas and of communicating them to others, when he comes to commit his thoughts to writing. But there is something, not strictly akin to intellect, required to leave a man free to combine, arrange, and concentrate his thoughts, when he essays to address a public assembly with the view of bringing men to his own way of thinking: for, let his genius be ever so perspicuous and comprehensive, he will become embarrassed before a multitude, especially if it be hostile, so far as to be quite unable, at the moment, to bring his faculties to bear upon the subject he is discussing with the same amount of concentrated force and clearness as he could, when writing in his own closet, or when in the act of addressing an audience friendly to his opinions, if firmness, self-esteem, combativeness, and hope form weak features of his character, while love of approbation and cautious circumspection are its predominant qualities. For, in the secluded closet the workings of such a man's intellect are in a great measure exempt from the intrusion of those conflicting emotions, namely, the ambition to excel and the fear of not succeeding—affections which, in the presence of danger, paralyse the efforts of the brightest intellect by disconcerting the harmonious co-operation of its several faculties. For instead of being concentrated upon the subject of his intended discourse, they are distracted by an overwhelming sense of present danger, and wholly engaged in contemplating the probability of some direful disaster.

A memorable illustration of the unhappy effects produced upon the well-poised action of the intellectual

faculties by the ill-balanced energy of the organs of some of the feelings, and the apathetic weakness of others, occurred in the person of the great orator Cicero, upon his having ascended the rostrum, to speak in defence of his brave partisan, Annius Milo, who was on his trial for the killing of Clodius, Cicero's own bitter enemy and effectual persecutor. On that occasion, the great orator, seeing himself unexpectedly surrounded by Pompey's soldiers, was so completely terror-stricken that he lost his presence of mind; his speech, consequently, was an utter failure, and his bold client was condemned to be banished. The speech, which he was unable to deliver through the disarranged state of his intellectual faculties, caused by timidity, he sent in its completeness, such as he had composed it at home, alone and unembarrassed, to the exiled Milo, and Milo, in thanking him, said—"If you had spoken thus at the trial, Cicero, I should not now be eating shrimps at Marseilles."

How different from this was his conduct, when, as consul, and surrounded by friendly and applauding magnates, he denounced Catiline in the senate house, for his treasonable actions in that fine and fearless speech, commencing with these harmonious words, *Quousque tandem abutere Catilina, patientia nostra!*" a speech which had a withering electric effect upon the daring intruder. But when we recur to a man who possessed well-arranged intellectual powers of colossal dimensions, combined with dispositions both enterprising and ambitious, and supported by courage the most heroic, we find that he was endowed with never-failing presence of mind and concentrativeness in the midst of impending disaster. Such a man was Julius Caesar, who, when his army at a critical moment refused to fight until they had received their arrears of pay, and were clamorous for discharge, so far

from being in the least alarmed or disconcerted, instantly dismissed them, by addressing them as 'Quirites,' the word used to designate civilians amongst the Romans. The men were completely subdued by this single word, and imploringly prayed to be restored to their position as "Milites" (soldiers), and harassed him no more about the arrears due to them. Here was an instance of presence of mind in the midst of danger, as well as of concentrated mental power scarcely to be matched in history.

Is it not obvious, then, that, to a certain extent at least, the equipoise of the organs of the feelings is indispensable for enabling even those who are endowed with powerful and well-balanced organs of the intellectual faculties, to concentrate their thoughts with clearness and effect when threatened by unexpected dangerous contingencies?

Seeing then by the evidence of a multiplicity of facts that the faculty of intellectual concentration is the product of a well-balanced series of cerebral organs, it is but reasonable to conclude that the presence of a single organ, specially and exclusively adapted to produce that effect, is altogether superfluous. And when long-tried experience discloses the fact that some men, renowned for superiority of genius, were but scantily endowed with the organ upon the largeness of which concentration of the mental powers was by some eminent men supposed to depend, when such is the case, there is afforded positive assurance that there does not exist any special single organ capable of causing the simultaneous concentrated action of so wide a range of mental qualities differing intrinsically from one another, and which have the power of acting in harmony only when the several organs upon which these qualities depend are well developed, and harmoniously balanced with those of Time and Order. (see Plates 6, 7, & 10.)

ADHESIVENESS—SENSE OF ATTACHMENT TO PERSONS.

WERE we to be swayed by the opinions of some writers we should fall into the error of supposing that the sense of personal attachment does not exist as a simple primitive faculty of the mind, but that it is merely an exotic, which springs from influences engendered amongst human beings, living together, submitting to the same ordinances, and using the same language. Mutual wants and the necessity for help in a world full of danger are the incentives, they say, which prompted individuals to step out of their primitive, isolated spheres, in order to form themselves into communities, and thereby render every one according to his ability capable of augmenting the happiness of his neighbours and himself.

Undoubtedly, this social compact is the result of circumspect and prescient minds, acting with the view of devising means for adding to the prosperity and happiness of the body politic. But cold and selfish would be the motives actuating their proceedings if they were not instinctively conscious of being united by the soft bonds of social love, which brought men together at first, independent of the promptings of self-interest and fear. And as personal attachments do in course of time become expanded into public affections by the humanising

influence of benevolence and conscientiousness, guided by wisdom and intelligence, so do they form the first links of the chain which binds communities together. But though the general possession of these noble mental qualities in harmonious uniformity is, above all things, necessary to a nation's happiness, yet it is to the diversity of talents that the rapid prosperity of a people is in a great measure due. For this difference of talent necessitates the division of labour, and by thus providing for man's various wants would of itself tend to give rise to the founding of large communities.

Yet that there is a primitive self-existent sense of attachment—of friendship cannot admit of a doubt. Is the love of a dog for his master the result of circumspection and self-interest? No, the faithful creature would suffer starvation rather than desert his friend. Sir Walter Scott records a very affecting instance of this truth in his spirited song commencing thus—"I have climbed the dark brow of the mighty Helvellin."

Unlike the faithful dog, the cat seldom evinces much attachment to persons, yet so strong is its affection for the house it has been always used to that it can scarcely be prevented from returning to its accustomed habitation, and from remaining there though it be cheerless and lonely. On the contrary, the dog cares but little for place, except in so far as it is connected in his remembrance with those who have caressed him.

This striking diversity in the dispositions of the cat and the dog, in regard to the aim of the specific sense of attachment of each of them, must necessarily be accompanied by a difference in the form of certain parts of the skull; and a careful comparison of the parts which

experience has invariably shown to be the seats of the organs of those two distinct senses of attachment, leaves no doubt on the mind of a careful practised observer that the part of the head which lies in the median line, just above the organ of the Love of Children, is relatively larger in the cat than in the dog; while the parts lying on the right side and on the left of that organ, and over the extreme bounds of that of the Love of Offspring, is very large in the dog and comparatively small in the cat. There are some dogs, however, in which the organ is but ill-developed; but such dogs are not remarkable for that strength of attachment which is so characteristic of the dog tribe. Some varieties, also, are characterised by a stronger sense of attachment than others: and I have observed, in the course of my examination of a very extensive collection of the skulls of dogs of almost every description, that the region of the skull, wherein this organ is situated, is much more developed in the former than in the latter. Even the fine English bulldog is far less prominent and rounded at this part than the little Blenheim, or King Charles's spaniel. Let any one compare the graceful greyhound of the chase with the French poodle, the Scotch terrier, the Irish water-spaniel, and the English setter, and he will find that in the skull of the greyhound the same part is not so well developed as it is in the others.

In human skulls, also, great differences are found to exist in regard to the actual and relative size of the organ of the sense of Personal Attachment. It is very small, for instance, in the broad, low head of Richard Patch, who was hanged in 1806 for the murder of his friend and benefactor, Mr. Bligh, a shipbroker of Rotherhithe, who had a short time before raised him from the

position of a servant to that of a partner. On the contrary, the organ is singularly large in the cast of Hayman, a daring smuggler, who was captured during an affray in which a revenue officer was killed. But, as he was not the person who fired the fatal shot, a pardon was offered him if he would divulge the names of his companions. But the trusty fellow, with folded arms and countenance unmoved, said he would sooner die than betray his companions, and was hanged. Now, since this man's head was not indicative of the presence of high moral endowments, though it was not of the low criminal type, like Patch's, the influence of his large organ of Adhesiveness is the more strikingly conspicuous. Again, the organ is ill-developed in the cast of Fieschi, of "Infernal Machine" notoriety, who betrayed his accomplices, without effecting his own escape. And when one of them, on the scaffold, pointed to their aged associate, and upbraided him with having brought the feeble old man to so wretched an end, he merely shrugged his shoulders in a careless unfeeling manner. It is very small in the cast of the head of a Frenchman, named Dautun, in Gall's collection, whose unhallowed love of money caused him to poison his own brother for the sake of obtaining his property. The organ is very small in the cast of the notorious Lacinaire, who murdered a large number of persons in Paris; and who, after his trial and condemnation, declared that he committed those atrocious crimes, for which he was about to suffer, because he had waged a war of extermination, so far as he could effect that object, against society, on account of some unpardonable wrongs he had suffered as a helpless victim of its injustice. One would think that so hazardous and hopeless a crusade could only have its

source in a mind warped by insanity, if there were not in the strikingly marked characteristic features of his head indications of a tendency to give way to instinctive suggestions, calculated to lead to the commission of atrocities such as he was guilty of. To judge by the authentic cast of his head, he was a man of some talent, but singularly devoid of the moral sense, the slave of intense selfishness, unmitigated by the slightest demonstrative endowment of social attachment, which is, even by itself, as we have seen in the case of Hayman, a strong barrier against the inroads of selfishness.

On the contrary, the same part of the head is large in the cast of the late Robert Owen, the essentially practical philanthropist, who thought and felt that the mind of man was constituted for social intercourse and unselfish co-operation, and strove to show by experiment that general prosperity and peace would prevail, if men could be got to live with their families in societies, where the produce of each individual's industry should go to form a joint stock, out of which each would get, as his portion, a sum adequate to the capacity, energy, and industry displayed by him as a member of the community. In this mode, Owen imagined that selfishness, violence, and contention could be rooted out of the ways of mankind, and a path opened for the advent of benevolence, the benign harbinger of universal happiness.

But this amiable and beneficent man was wrong in supposing that the home affections of human nature—our own “elective affinities,” were to be set aside by this public amalgamation of interests, which would, to judge by experience, be likely, sooner or later, to become deranged through the selfishness of some, and finally break up into irremediable confusion. Such a scheme could

never be carried out without abridging personal liberty of action in regard to property, and weakening perhaps those ties of kindred which act so powerfully as incentives to industry, temperance, and a generous frugality. Indeed, so long as selfishness remains the active and prevailing ingredient of our mental constitution, as it at present seems to be, there is but little chance of such a general commingling of interests being ever widely consummated.

But though Owen's philanthropic speculations and practical efforts to ameliorate the condition of his fellow creatures proved to be abortive, it cannot be doubted that they were the spontaneous suggestions of the mind of one who was imbued with strong social affections, and whose soul yearned to hasten the advent of universal happiness. And if some of his opinions rendered him subject to the imputation of promulgating a doctrine which tended to the disruption of social ties, and the undermining of the sacred foundations of domestic bliss, the goodness of his intentions was never questioned by those who were aware of the purity of his conduct all through life, however much they thought him wanting in wise and reverential consideration for some important religious injunctions.

But the point to be noted here is simply the fact that the organ of Adhesiveness is large in the cast of the head of Robert Owen, who was the hopeful enthusiastic friend of mankind; and that it is very small in the cast of Lacinaire, the avowed hater and would be destroyer of society. Of course it is not to be supposed that a great development of this organ would go far to avert the selfish ferocity by which this atrocious criminal was likely, according to the shape of his head, to be swayed under some unhappy concurrence of circumstances; but only that the object and nature of his wickedness was

fashioned and coloured owing to the want of admixture in his mental composition of the grateful and warm hues of social attachment. Neither is it to be inferred that a poor development of this organ in Owen would be of force sufficient to put out the fire of his zeal in forwarding the cause of human happiness. To be satisfied of this it is only necessary to trace on the cast of his head the palpable lineaments of a confiding, unselfish, benevolent nature, unalloyed by the smallest tincture of covetousness, or of a disposition to countenance violence of any kind (see Plate 4, Diagrams 1, 2, 3, 4).

The influence upon character of a large or small organ of Attachment is strikingly exemplified in the following instances. The organ is large in the head of Eustache Bellin, called "The Benevolent Negro," who exposed himself to imminent peril during the great servile rebellion in St. Domingo, in striving to save his master's life and property. And he succeeded by politic and heroic efforts in escorting him in safety to Paris, after having bravely, with cutlass in hand, put down mutineers who were attempting to seize the ship in which they were bound for France. The organ is very small in the large, globular head of Palmer, of Rugely, the covetous, cold-hearted, arrantly deceitful murderer of his confiding, generous friend and ailing patient. And it is also affirmed that he poisoned some of his own nearest of kin. There is a great deficiency of this organ in the cast of Madame Gotfried, a Prussian woman in a respectable condition of life, who murdered, it is said, by means of poison, eighteen persons. Of these, three were her husband's and three more her own children. The latter she destroyed not because she was incapable of loving them, but because she desired to gain a husband with money;

and as the man she was seeking declined to marry her because she had children, she with diabolical and unnatural cruelty murdered them. The form of this woman's head is very bad (see Plate 5).

One instance more I would fain give to show a very remarkable coincidence between smallness of the organ of Attachment and the total absence of social love or affection. It is the cast of the head of a French chevalier. To judge by the salient features of this head, there cannot exist a doubt that this man was a plotting, plausible, cunning, avaricious, sensual, and singularly unscrupulous man, with an entire absence of the sense of attachment. And his conduct fully bears out this estimate of his character. It is on record that this man married a lady of fortune, that he acted towards her in the kindest manner until she fell ill, that this occurred after a short lapse of time, and that up to the day of her death, which soon took place, his attention was unremitting and his manner most consoling and affectionate. Though overwhelmed with grief, apparently, he soon succeeded in getting another wife who had money. But she, in her turn, soon got sick and died, after having received the most devoted care at the nursing hands of this cruel hypocrite. Soon after this a third wealthy victim fell into his snares by marrying him; and though he had acquired by his diabolical cunning the reputation of being a model of a good and loving husband, the sudden illness and subsequent death of his third wife, whom he himself ministered to with, seemingly, the most affectionate and sympathising tenderness to the last moment of her life, there arose a suspicion that the chevalier was the murderer of his three wives. Conclusive evidence of this fact was soon acquired, and this wretch was tried, convicted, and

executed. The organ is very small in the head of the cruel, hypocritical Dr. Pritchard, whose conduct was of a like diabolical cast, though his motive was not the same.

This primitive sense of social love or friendship is a highly important ingredient in the composition of a patriotic mind. And as Burke truly says, "No cold relation ever made a warm citizen," so no man ever loved his country and its interests dearly who was not endowed with a strong sense of social attachment.

And after a scrupulous examination of a wide range of facts, I can truthfully aver that the organ of Adhesiveness, or the sense of Attachment, is a salient feature in the busts and casts from nature of all those great men whose lives and energies have been instinctively devoted to the enhancement of the glory of their native land, without having their intentions tainted by the leaven of selfishness. But it would not be just to suppose that all those whose political career is by opponents judged to be unpatriotic were unendowed with warm patriotic affections, since their conduct takes its colour, in a considerable measure, from intellectual characteristics, as well as peculiarities of sentiment, which may be, and certainly are, often of a high order. For though we find the glowing enthusiastic patriotism of Henry Grattan coincident with a superior development of this organ in his bust, it is certain that it also forms a salient feature in the fine bust, by Nollekens, of the renowned and high-minded Chief Justice, Lord Mansfield, whose conservative tendencies abated the public display of strong social attachments, though they could not avert their patriotic influence, when his high sense of impartial justice prompted him to break through the trammels of religious bigotry, and of the iniquitous

social tyranny, by which his Catholic fellow-countrymen were in his time persecuted, in order to take a part in procuring their emancipation from political and religious thralldom.

In the cast of the skull of Robert Burns the organ of Attachment is very large, and surely never did poet of any age or nation manifest in his poems more genuine fervour in delineating the charms of friendship than did this great genius. And there is another poet, in whose head the same part was remarkably protuberant, whose writings depict the enchanting influence of the social and domestic affections with all the glowing warmth of a soul that truly felt them. It will be surmised that here is meant Ireland's patriotic bard, Thomas Moore, whose "Irish Melodies" afford pure and affectionate indications of the paramount strength of this feeling in the constitution of his mind. The same organ is large in the head of Sir Walter Scott, and surely the glowing spirit of friendship was manifested in a high degree in the writings and manners of that noble-hearted man.

In these cases a fine development of the organ of the sense of Local Attachment—of the love of home—tended to draw the simple abstract sense of personal attachment more particularly into affectionate adhesion with the people of their own native land.

The seat of the organ of Adhesiveness, or Attachment to Persons, is just above the lateral confines of Philoprogenitiveness, and on each side of Inhabitiveness. It also lies above Combativeness, and behind and somewhat below the organs of Cautiousness and Love of Approbation, and is in immediate contact with all of them.

How admirable is the harmoniousness of organic combination here displayed! For here stand the repre-

sentatives of circumspection and courage, with shield and sword, at the portals of the domiciles of the social and domestic attachments, ready, instinctively, to give warning of danger, and to nerve the arm with vigour enough to crush it, if possible, should it ever threaten to injure the well-being of kinsfolk, or to desecrate the sanctity of one's native fireside.

It is well to observe, in conclusion, that children in whom the organ of Adhesiveness is small, are not so easily managed as those in whom it is large, supposing them to be pretty nearly alike in other leading mental characteristics. One will be easily brought to forego its most cherished fancies rather than see the person whom it loves pained by any show on its part of dissatisfaction or disobedience. The other, from weakness of the sense of attachment, does not readily identify itself with its associates, and cares less for their anxieties. For this affection is essentially unselfish, and is a powerful incentive to gratitude—that noble attribute of noble minds.

An early knowledge of the disposition of children, with respect to their capacity for friendship, will go a great way in enabling parents and tutors to devise the most effectual means of influencing their dispositions. For, wherever there is large Self-esteem, with dominant Combativeness in a child, a superior development of Adhesiveness in the same child will afford powerful assistance to the teacher, who, from instinctive sympathy of attachment, knows how to make use of such an important and delightful auxiliary in his endeavours to counteract and control unruly passions and self-willed tendencies.

In fine, there cannot exist a doubt that the sense of

attachment to persons, called "Adhesiveness," is a primitive, single faculty of the mind; or that the exact situation of its organ on the skull has been truly ascertained. Of this fact many positive and negative instances have been given in the foregoing pages.

COMBATIVENESS, OR PERSONAL COURAGE.

THE theory which would maintain that courage is the result of a consciousness of superior bodily strength is quite as untenable as the one which considers the mechanical aptitudes, which are possessed by mankind, to be the result of the superior form of the human hand. In confutation of the first supposition it is only necessary to advert to the fact, that heroic personal courage is frequently displayed by men, small in size and of comparatively feeble muscular power; while timidity is often found to characterise men upon whom nature has bestowed great bodily strength.

That courage does not depend upon the presence of great muscular strength, combined with enormous size, is proved by the fearless manner in which a thorough-bred English bulldog will attack a gigantic and infuriated bull. So great is the courage of the English game-cock that he will die rather than turn tail upon his antagonist. And a game-hen has been known to pursue over several garden walls a cat, which had caught up one of her chickens, and then attacked him with such vigour that he was forced to relinquish his prey. The robin and the diminutive wren are remarkable for their pugnacity: while the turkey is a timid bird. That the instinct of

self-defence does not depend upon size and strength is also apparent when a large flock of sheep is seen to run in affright before a lady's lapdog. The tall, muscular greyhound would not dare to stand the attack of a small bull-terrier. Bodily strength, then, has no share in imparting the instinct of self-defence or courage: although the consciousness of possessing great muscular power must tend to support the courage of a man by imbuing his mind with a greater amount of self-reliance in regard to his capacity for attack or defence. But such calculations cannot, of course, enter into the minds of animals.

By some, courage has been thought to arise from the love of glory: but the adoption of such an opinion would be to mistake the faculty which incites another faculty to action for the primitive faculty itself. As well might love or friendship, or the care of one's offspring, or the necessity of preserving property, be considered as the source of courage, since they are, undoubtedly, most powerful incentives to the display of fortitude. The love of offspring is a quality which is far more influential in the mental constitution of women than in that of men; and yet courage is not a distinctive attribute of the female character.

Indeed, there cannot be the slightest hesitation in coming to the conviction that courage is a primitive, self-supporting faculty, which is manifested more or less energetically in different species of animals and individuals of the same species. In men, too, some aboriginal tribes are abundantly supplied with this valuable quality: the New Zealanders and North American Indians, for instance, while it is a comparatively defective ingredient in the mental constitution of the Hindoo and Chinaman. And yet the collateral incentives to the display of bravery

are quite as powerful in the Chinese and Hindoos as in the Maories and American Indians.

The abstract existence of this faculty being, therefore, an incontrovertible fact, there can be no doubt as to the certainty of a part of the brain being specially devoted to its manifestation. And, since it is a mental attribute which man inherits in common with animals, it is reasonable to suppose that its organ is among those of the animal propensities. In strict accordance with this anticipation, the organ of Combativeness is found to lie just above Amativeness, and on each side of Philoprogenitiveness. It has Adhesiveness in contact with it above, and Destructiveness, Secretiveness, and Cautiousness are attached to it towards the front and the top of the head.

What an appropriate assemblage of co-operative organs is here presented ! Here are Circumspection and Courage standing as sentinels—one, with watchful eye and listening ear, ready to sound the alarm on the sight of danger—the other, armed at all points, stretches forth its broad shield of protection with one hand, while with the other it strikes to the ground those who would dare to injure the objects of our dearest affections.

Experience has established it as a fact that without an adequate development of this organ it is not possible for a man to act with intrepidity in the midst of danger, or to be disposed to repel, at all hazards, unjust aggression. Still, a strongly marked and habitually active Combativeness is not indispensable to the disposition and the power to oppose and repel unjust aggression. For an exalted sense of justice is sure to excite to energetic action even a moderately developed organ of Combativeness, when that sense is violated. And cases could here be recorded where benevolent anxiety for the safety of another has

caused an individual with moderate Combativeness to rush into danger in the presence of persons much bolder than himself, and in whom the organ was much larger, who wondered at his rashness.

Nevertheless, a large development of this organ is an indispensable ingredient in the cerebral composition of an instinctively warlike and heroic personage. And amongst the numerous illustrations of this fact adduced by Dr. Gall in his great work on the functions of the brain was the skull of General Wurmser, who was a man of great personal courage. In that skull the region in question is not only very broad, but remarkable also for a convex projection; while in the skull of the poet Alxinger, whose disposition was timid, the same part is not only narrow but flat. In men remarkable for their poltroonery, Gall always found a narrowness and sometimes even a slight depression of this organ. And, on the contrary, he says that at the combats of wild beasts, at that time still exhibited at Vienna, there often appeared a first-rate fighter, of extreme intrepidity, who presented himself in the arena to sustain alone a fight with a wild boar or bull, or any ferocious animal whatever. "I found in him," says Gall, "the region of the head just pointed out, very large and rounded." He took a cast of this head, and also of those of some other "bravos," that he might run no risk of forgetting their particular conformations.

Numerous are the examples recorded since the days of Gall, which corroborate, beyond the shadow of a doubt, the truth of his views as to the function of this portion of the brain. In all pugilists remarkable for their courage this region of the head is very large. The men who first in this country caused brute force to succumb to

the "art of self-defence," were by sporting men deemed worthy of having their features immortalised by means of fine mezzotint engravings. These champions were Fig, and Broughton, and Taylor, with some others. In all of them the organ stood out in conspicuous prominence. In Deville's collection there were many casts of noted boxers, and in them, also, a similar conformation was obvious to the most casual observer, although there appeared a marked dissimilarity in other parts of their heads. In the cast of one of them of the name of Curtis, a very small man, remarkable for his intrepidity in encountering men much larger and more powerful than himself, as well as for his skill in vanquishing them, this part of the head is very prominent.

A very large development of this organ tends to make a man quarrelsome, but such is not invariably the case; for if there be, at the same time, a fine endowment of the moral sentiments, with intellect to guide them, wanton pugnacity will never manifest itself. One of the largest organs of Combativeness, or the instinct of self-defence, that has ever come under my notice, was to be seen in Mr. Deville's collection. It formed a prominent feature in the cast of a country gentleman, who, on one occasion, previous to his returning home from market, turned into an inn to take some refreshment. There happened to be then at the bar three men of very suspicious appearance, who left the house upon hearing this gentleman tell the landlord that he intended to walk home. Knowing the men to be very bad characters, and suspecting that they intended to waylay and rob his respected customer, the landlord, after giving his reasons, begged of him not to venture on the road that night. He replied that he never feared any man,

and requested the landlord to give him a stick and three short ropes. Having procured them he set out for home, which was about three miles off. On the way he espied, through the dusk of the evening, three men in the centre of the high road. On one of them coming towards him he warned him to keep out of his path, and upon the near approach of the highwayman, this fearless man rushed upon him, struck him across the legs, and brought him to the ground. On the others advancing to the rescue of their accomplice, he knocked them down one after the other, in the way he disposed of the first, and then having disabled their arms by a few well planted strokes, he pinioned them with his three cords, and ultimately compelled them to return to the village they had all just quitted for the purpose of robbing him.

Undoubtedly this was a rare instance of intrepidity and self-reliance, for the heroism of this man, being cool and premeditated, must be deemed to be of a higher quality than that instinct of self-defence which prompts a man to encounter an unexpected attack. It should be observed that in this case the organ of Caution was only of moderate size and that of Hope large, and there was a fine development of the moral portion of the head. He was fearless and brave, but not quarrelsome. As a contrast to this head there was by the side of it the cast of a young man, who was of so timid a disposition that his family were alarmed for his safety, if, by any chance, he should be obliged to cross a thoroughfare in London. The slightest appearance of danger disconcerted him so much that he lost all presence of mind, and seemed scarcely capable of making an effort to save himself. He was equally fearful of encountering the active duties

of life. The head, in this instance, was rather below the average size, and the organ of Combativeness was so exceedingly small that it was not only narrow from side to side, but even hollow where in the other head it was protuberant.

In Thorwaldsen's fine bust of Lord Exmouth the organ is excessively large, and surely never did any man display a greater amount of heroic courage than was, on every occasion, manifested by this *beau ideal* of a British sailor. In very early life his heroic gallantry shone conspicuously in his efforts to rescue his fellow-creatures from positions of the greatest peril. When his telescope was flattened in his coat pocket by a shot at Algiers he did not seem to notice it, but gave his orders with perfect indifference to the danger to which he fearlessly exposed himself.

I will here mention an incident which is strikingly illustrative of the unflinching courage of this renowned British admiral.

Some years ago when that exquisite sculptor and excellent man, McDowell, was modelling the statue of Lord Exmouth, which is now a signal ornament in the Hall of Greenwich Hospital, I happened to be in his studio; and my attention having been drawn to Thorwaldsen's bust of his lordship, I gave my single-hearted, unselfish friend, at his own request, a brief phrenological reading of it. In the course of a careful analysis of his various strikingly moral and intellectual characteristics, I said that his noble intrepidity might, in the face of impending danger, be apt to degenerate into improvident acts of rashness, owing to the vast ascendancy of the organs of Combativeness, Benevolence, Conscientiousness, and Hope over his moderately-developed organ of Caution, but yet that this opinion did not amount to a

settled conviction, because it was probable that the circumspect and reflective character of his clear intellect would, on almost all occasions, afford him an effective safeguard against unthinking rashness. A few minutes after this Archdeacon Pellew came in with a captain in the navy to view the statue. In the course of conversation, McDowell told the archdeacon what I had said of his father's character, as far as it was indicated by the bust. He seemed much pleased at my having estimated it so highly, and in the kindest manner acknowledged the truthfulness of the delineation. And then, turning to his friend, he said, "Do you remember our dinner at Plymouth during that severely contested election? Did not my father seem to every one at table to have acted rashly upon that occasion? The case," said he, "was this. The mob came before our door in a violent and threatening attitude, for my father was on the unpopular side in politics. When the furious uproar commenced we were seated at dinner, and, in our alarm, begged of him not to show himself at the window. But, after listening for a moment, he went to the window, when an infuriated shout pierced our ears. My father then left the parlour, desiring that no one should follow him. In a minute we saw him, bareheaded, walking up coolly to the mob, and seizing the two ringleaders, drove them into his own hall, and then shut the door. The mob were thunder-struck, for they ceased their menacing, and soon dispersed, and he, as I recollect, then dismissed his prisoners. There was no repetition of the attack upon him or his house."

This act, so fearless and daring, was the only one he knew of, in which the archdeacon thought his father could be looked upon as being guilty of rashness.

The late celebrated statesman, Lord Castlereagh, was remarkable, at all periods of his life, for courage of the highest order, and for imperturbable coolness in the midst of danger. So powerful, indeed, was this attribute of his nature that his political enemy, O'Connell, thus characterised him to Captain Gronow, in the House of Commons, "With all his faults, Castlereagh was a fine fellow, and as brave as Achilles."

Let any one examine the exceedingly fine bust of this distinguished man, by Chantrey, and the great prominence of the head, in the seat of the organ of Combative-ness, cannot escape his notice. The organ is moderate in Behnes Burlowe's bust of the gentle, philosophic, unassuming Sir J. MacIntosh. It is very large in the cast of that able lawyer and historian, John Adolphus, who is said to have been of a choleric and contentious disposition. In Wyat's bust of King George the Third, this part of the head is very large, and its energies could not be much counteracted in him by thoughts on the prospect of danger, for in his head, neither the organ of Caution, nor those of the reflective faculties, were well developed. In his son, the Duke of York, a similar general conformation of the head presents itself. And is not the personal bravery of both these royal personages quite notorious?

The ancient sculptors seem to have copied nature closely: and we meet with, in their works, most interesting evidence corroborative of the phrenological doctrine. In Scipio and Julius Cæsar, in Marius and Sylla, we find the part of the head which we are now considering very large; while it is moderate in the busts of Cicero and Demosthenes, and in those of the poets Theocritus and Horace. The inglorious flight of Demosthenes, when

fighting in the cause most dear to his heart, is matter of history; and Cicero himself says, when writing to his friend about Cæsar, "He," meaning Cæsar, "knows that I have not a spark of courage." And Horace playfully alludes to his having, in his flight from Philippi, thrown down his little shield, "*relicta parmula*," as he himself playfully expresses it.

Though there are to be met with in some regions of Hindostan many tribes possessed of much personal courage, yet, the Hindoos are, generally, found to be strikingly deficient in that attribute. And out of a large number of Gentoo skulls, which have fallen under my notice, scarcely one could be met with that was not very small where the organ of Combativeness is placed. In the skull of Seedee Almas and Hassan Khan the organ was large; and these men were remarkable for their courage—the latter especially. He was killed by a sabre cut on the head, at Guznee.

The people of Loo Choo were found to be a shy, timid race, when Captain Hall visited their island. And when this navigator told Napoleon, at St. Helena, that these people had no kind of offensive weapon or warlike instrument, the great warrior expressed his wonder that there could be in existence a people to whom war was unknown. Such an opinion was in perfect harmony with his own dispositions and conduct through life.

To Robert Owen, on the contrary, the existence of such a people would be evidence confirmatory of his own theory—that man is by nature averse to war and contention, and that this unamiable propensity is but the result of the circumstances by which he has been surrounded through life.

Mr. Combe truly says that "this faculty adapts man

to a world where danger and difficulty abound." But would it be right to infer from this that the presence of this faculty in the constitution of man implies the necessity of the existence of danger and of sources of contention? Certainly, if its function be confined to angry sallies of attack or defence. But to consider such an inference conclusive would be to narrow its sphere of usefulness, for this faculty may be in action when all signs of danger are absent. It enhances the energies of the intellectual faculties as well as those of the feelings and moral affections. And although strong faculties are capable of manifesting, of their own accord, their inherent activity; still certain experiences would lead to the conclusion that the total absence of Combaticiveness from the mental constitution of all mankind would be attended with so great an amount of apathetic indolence, in the carrying out, sedulously and continuously, of the active business of life, as would render abortive, in a great measure, the wisest plans for the advancement of the common weal, or prayerful resolutions for promoting the comforts even of oneself. The truthfulness of this assumption is strongly supported by the following remarkable case.

William Mears, a very clever mechanic, in the service of the late Mr. James Deville, the celebrated practical phrenologist, had a large and finely-formed forehead. He was also endowed with a very good development of the region of the moral sentiments, and a large organ of Ideality indicated the presence of a superior sense of the spirit of poetry. The organ of Constructiveness was large also. He possessed, moreover, the nervous temperament in its purest form. But the whole of the exclusively animal portion of the head was small, particularly Com-

bativeness, and that was exceedingly small. As might be expected, this man was morally sensible of his duties, but, from his want of stirring energy of character, he felt that their assiduous fulfilment was so irksome, notwithstanding his mechanical competency, that he was frequently in the habit of giving a part of his own weekly hire to a fellow-workman to complete what he himself had in hand.

Now this signal repugnance to active exertion in his own special calling, on the part of a man who possessed superior talent in his craft, could not possibly have arisen from natural inactivity of the organs, which are alone competent to the performance of such duties. Its cause must, therefore, be sought for elsewhere. And there is abundant evidence to show that that cause is to be ascribed, chiefly, but still not entirely, to a meagre development of the organ of Combativeness. For this comparatively illiterate poor man was a devoted student of astronomy and poetry, and was in the habit of sitting up late for the purpose of watching the stars, and of composing poems on astronomical subjects. But though these tastes were calculated to wean him from a pursuit that he might have deemed comparative drudgery, yet, had he been endowed with well-developed Combativeness, he would, instinctively, have striven to go through his proper labour without vicarious aid, and could still spare time for indulging in his scientific and literary wanderings.

The habit of giving part of his wages to a fellow-workman for doing that which he was too indolent to do himself, brought him into pecuniary want; and he committed suicide after the manner of Seneca.

It is not irrelevant to observe here that self-murder is

not necessarily the act of a sanguinary temper or of a courageous heart. For, in addition to very small Combativeness, the organ of Destructiveness was small, also, in the head of this poor man, Mears. But when his small organ of Hope and large organ of Caution became disagreeably affected by the humiliating inroads of poverty, against which he had not the courage to stand, and which his well-developed Self-esteem rendered him unwilling to brook—it was then he fell a consenting victim to the fatal goadings of despondency.

In the region of the organ of Combativeness how striking is the contrast, as to size, between the head of this indolent man and that of the renowned William Cobbett—the singularly indefatigable, energetic, self-sustaining “Labourer.” Such was the epithet by which he designated himself when called upon to plead in the Court of King’s Bench to a serious *ex-officio* indictment, wherein he was accused by Attorney-General Denman of being the cause or instigator of some agrarian outrages; and upon which occasion he eloquently, defiantly, and triumphantly pleaded his own cause. Certainly Cobbett was a man of extraordinary talents. But Mears was also endowed with superior abilities.

These cases, and many other similar ones that could be cited here, tend to prove that Combativeness is an essential ingredient of the mental constitution of every active member of society; though danger and all the causes of angry contention were swept away from the face of the earth. At the same time, the inordinate development of that organ is a sure indication of an inherent love of contention, and a tendency to provoke assault. And of this Cobbett was a notable example. Nevertheless, a very large organ of Combativeness may be

possessed by one to whom quarrelsomeness is irksome. A striking example of this is presented in the head of Charles James Fox, modelled by Nollekens. In this large and powerfully-developed head the organ forms a prominent feature. It is indeed very salient. And yet Fox was dearly loved by those who knew him intimately for the peace-seeking gentleness of his disposition. To use the words of his friend Edmund Burke, "He had not one drop of gall in his constitution." But he was bold and impetuous when denouncing those whom he looked upon as the mortal enemies of freedom. And these qualities he displayed in a strain of eloquence, such as has seldom been equalled for closeness of reasoning and the unpremeditated display of benevolent aspirations for the political and social happiness of all mankind, without distinction of creed or complexion. But, in persons less happily constituted, so large an organ of Combativeness would incite to quarrelsomeness and self-willed aggression. Such is the inference, for instance, to be drawn from two fine antique busts of the warlike and habitually aggressive Caius Marius, and the no less cruel, arrogant, and pugnacious Sylla. This organ is a conspicuous feature in the authentic portrait of Martin Luther by his friend, Cranach. But, unlike Fox, who, as Burke said, "was formed to be beloved," Luther was constantly under the active influence of a seemingly uncontrollable self-will, which raised the tone of his powerful Combativeness to the highest pitch of intenseness. And this resulted in that arrogant and insolent style of controversy which it was his delight to adopt, though the object of attack might be a pope or a king. The utter fearlessness of this great reformer is clearly indicated by the moderate development of the organ of Caution in the afore-mentioned

portrait of him. In the bust of Fox, also, the organ of Caution was of moderate size. And this fact, coupled with his very large organ of Combativeness, fully explains how it came to pass that a man with an intellect so powerful, and sentiments so graceful and noble, could have allowed the impetuous current of his energies to overwhelm, sometimes, the patent landmarks of circumspection.

A man who holds a place still higher in the ranks of mankind was George Washington. He was not, perhaps, so lovable a character as Charles Fox. And though not gifted with genius for oratory, like that renowned statesman, he possessed a far greater share of wisdom and prudence. But he was also heroically resolute and brave. Jefferson says he was utterly insensible to the influence of fear. His characteristic prudence, therefore, was not so much the result of instinctive cautiousness (for dominant caution is the true parent of fear), as of clear-sighted intellectual forethought. Such courage as was possessed by this illustrious patriot must have been accompanied by the presence of a large organ of Combativeness. And yet he was not affected by any tendency to provoke assault, which is an abuse of the function of that organ to which some persons with a far inferior development of it are prone to give way, because the moral harmony of his disposition must necessarily have rendered groundless discord irksome to him. Still he had naturally a very warm temper.

Without Combativeness personal conflict could not be endured, nor indeed undertaken, even under the pressure of strong incentives. But yet in the conduct of human affairs it cannot be that a thirst for conflict is its only inherent mode of action; since a full endowment of it is

found to be a leading feature in some of the most peace-loving benefactors of mankind.

This apparent anomaly is entirely owing to the mutual influence of the faculties. For instance, the warlike recklessness of Charles the Twelfth of Sweden, to judge from Kraft's portrait of him, engraved by Tangè, is clearly indicated by the largeness of Combativeness and Hope, and the smallness of Caution. While the signal courage of Henry the Fourth's great minister and sagacious adviser, Sully, with his ever wakeful prudence, find fitting representatives in a large organ of Combative-ness and a well-developed one of Caution, supported by an intellect singularly circumspect, and keenly observant of passing events. For these are the characteristics of his fine head, as they have been delineated in De Marcenay de Ghuy's small but beautiful engraving of his portrait by Porbus. In the picture of Charles the Fifth of Spain, by Titian, engraved under the care and direction of Rubens, and in that of his early favourite and youthful adviser William of Orange, by Delft, after a painting from life by Vischer, there are signal indications of great intellectual power, of which circumspection is a marked characteristic. Each possessed a salient organ of Firmness. But Combativeness is certainly a more prominent feature in the head of Charles. It must have been in him, at all events, less under the influence of instinctive Cautiousness; for the organ of that faculty is far more prominent in the head of the Prince of Orange than in that of Charles. And, though the former displayed heroic resolution, while striving to assert the liberties of his country, yet certainly he was not, instinctively, so brave and fearless as the great Charles the Fifth.

A very remarkable contrast is presented between the

portraits of the brave but cautious Sully and that by Balechou of Crillon, who was distinguished for his impetuous heroism when fighting on the side of his no less gallant king, the great Henry the Fourth, against the Catholic league, though he was himself a Catholic. In this portrait the organ of Combativeness is very large, but that of Caution is relatively small, and there is a fine development of the organs of the moral and religious sentiments, with a high but not so prominent and administrative a forehead as Sully was endowed with.

Of the incautious impetuosity of Crillon's character the following anecdote, related by Voltaire, affords an interesting illustration.

"Henry the Third," says Voltaire, "had given Crillon the surname of Brave; Henry the Fourth never called him anything but 'Brave des Brave.' This illustrious general being in the king's closet, where his majesty was conversing with several courtiers and foreign ministers, the discourse turned upon the praises of great warriors. 'Gentlemen,' said the king, laying his hand upon Crillon's shoulder, 'here is the first warrior in the world.' 'Sire,' replied Crillon, hastily, with that impetuosity which was so peculiar to him, 'you have uttered a falsehood, it is you who are the first, I am only the second.' " What a rare commingling of rash, impetuous rudeness, and courteous, unflattering modesty. And here it cannot but be appropriate to the subject to say that the organ of Benevolence, and that of Veneration, were leading features of the portrait of Crillon, as humanity, and generosity, and devotedness were striking characteristics of his nature. Quarrelsomeness, or provoking offensiveness, therefore, could never be fostered in a disposition like his, notwithstanding the prominence of his organ of Combativeness.

In the cast of Dean Swift's scull this organ is very large, and great personal intrepidity was a conspicuous element of his character. A convincing instance of this occurred, when Lord Cartaret, then Lord-Lieutenant of Ireland, had offered a reward of five hundred pounds to any one who would name the author of the "Drapier's Letters." The very day after the issuing of this proclamation a crowded levee was held at the castle. Swift, who was the author of those famous letters, attended it in canonicals. And in contemptuous disregard of all ceremony, he jostled his way at once through the throng of courtiers, until he found himself face to face with the Viceroy, and then, pointing to the proclamation, which he did not fail to bring along with him, and assuming a stern and undaunted expression of countenance, he defiantly inveighed against the imposture which Government was striving to foist upon his native country in the form of a debased copper coin of which one Wood was the patentee. He did this, too, in the very words of the letter which called forth the threatening proclamation. Lord Cartaret, instead of taking offence, replied with singular presence of mind and gentle courtesy in the classic words of a great poet—

*"Res duræ, sed non mea mens, me talia cogunt
Moliri."* *

"The Dean" then quitted the enemy's camp with flying colours, and, many years after, when writing the remarkable poem upon his own death and character he gloried in the thought that when he was in so perilous a situation—

* Hard circumstances, but not my own mind, compel me to adopt such devices.

“Not a rogue was to be found
To sell him for five hundred pound.”

It should be noted, here, that the inherent tendency of a powerful organ of Combativeness to provoke assault was strongly displayed by Swift all through life. But, as this tendency was repugnant to the nature of several illustrious men who have been already named, and who were endowed with an organ of Combativeness, quite as prominent as that which the skull of Dean Swift displayed, it is obvious that their exemption from that unsocial disposition was owing to the greater development in them of the organs of the genial and gentle affections. Of this truth a striking and interesting example is to be met with in the mask of the generous, compassionate, and forgiving Henry the Fourth of France. In that authentic relic, the organ of Benevolence is a remarkably salient feature, and that of Ideality—the sense of the beautiful in all things, whether spiritual or material—is developed to a very high degree. And accordingly, to use the words of Sully, “his was a mind in which the ideas of what is great, uncommon, and beautiful, seemed to spring up spontaneously.” It is in defence of such noble objects that his paramount combativeness would take delight, and not in the desire to provoke assault. Cobbett, “the noblest peasant born,” as Elliott, “the Corn Law Rhymer,” has designated that most remarkable man, may be justly classed, in regard to these mental characteristics, in the same category with the renowned Dean of St. Patrick’s. And correspondingly marked is the resemblance which the casts of their heads, taken after death, bear to each other in the region of the organs of those attributes; while the cast from nature of the kindly, affectionate, placable Charles James Fox harmonises in

an equally marked manner with that of the magnanimous Henry.

It is obvious, when the foregoing facts are taken into consideration, that it would be incorrect to infer that a large organ of Combativeness must necessarily lead to the abuse of its function without having first carefully taken cognisance of the mutual influence of the faculties as they are indicated in every head by the relative size of their respective organs.

Courage of the most unselfish kind has been displayed by the most amiable and saintly characters that have ever appeared in the world. Combativeness, of which courage is the essence, cannot therefore be incompatible with the prevalence of "Peace on earth and good will towards men." Without a fair endowment of this organ the good Richard Cobden could not have ventured to encounter the powerful and influential opponents of measures which have proved to be conducive to the best interests, not only of his own, but of every other civilised nation. But so great was his abhorrence of war and of angry strife, and so fixed and intense his conviction that a resort to war in any form was criminal and unnecessary, that he rendered himself liable to be considered by many as being singularly Quixotic in his notions on that subject. But it was offensive war that Cobden deprecated. He thought that nations could assert and maintain their own rights and liberties without resorting to deadly conflict. But it would be doing a wrong to that true-hearted patriot and philanthropist to suppose that he deprecated warlike resistance to unjust aggression, when it should occur; because his own compassionate, just, and unselfish nature prompted him to use his far-seeing, logical intellect in the devising and the working to a successful issue

of measures which he foresaw were calculated to gratify the selfish tendencies of nations and of individuals: and, consequently, were likely to prevent war, which is the unruly offspring of unsatisfied selfishness.

In that compound of noble instincts, Fortitude—that cardinal virtue of the ancients—Combateness is a leading ingredient. And as true fortitude often glories in being the means of allaying anger and strife, and as this cannot be done effectually without courage, and as courage cannot show itself in the dearth of combateness, combateness cannot be essentially and solely the abode of quarrelsomeness. No. It is in other quarters of the brain we are to search for the seats of the real incentives of this odious propensity. It is in the regions of unscrupulous ambition, of unholy covetousness in all its phases of pelf and passion, and in selfish uncharitableness they are to be found. But, as skulking deceit, their naturally, deeply imbues these incentives with the pale hues of cowardice, they would recoil before wakeful opposition, if they could not command the services of combateness. And this, like all other feelings, being blind to consequences, is alike ready to be the agent in supporting, in the face of formidable opposition, the behests either of the righteous or of the unworthy. But it would be a mistake to think that, because a man possesses an adequate organ of Combateness to fit him for the energetic conduct of his affairs, he is therefore capable of evincing intrepidity in the face of impending danger to life or limb: nor does it happen that a truly brave man is necessarily disposed to be an active worker in the transactions of life. The result in the first case arises from too much caution, in the second, from too little; as well as from intellectual and moral inaptitude for the tranquil

pursuits of industry in the latter case. And the source of this unfitness is also discernible in the form of the head.

A striking example of the last-mentioned characteristics may be seen in the cast from nature of Richard Brindsley Sheridan—

The orator, statesman, and minstrel who ran
Through each mode of the lyre, and was master of all.

It cannot be doubted that such an intellect as his, which was so acutely observant of events, in all the minuteness of detail, was eminently capable of conducting to a successful issue the necessary affairs of life. Yet in this he sadly failed. But not from want of an adequate amount of the organ of Combativeness, for that organ is very prominent in the head of this remarkable man. To judge from this cast one is justified in averring that Sheridan was not endowed with the organs of Forethought and Circumspection to such an extent as would render him habitually provident and industrious. And, moreover, this carelessness was naturally fostered by the utter fearlessness of his character. His head is also indicative of the uncommon strength of the social affections, which caused him to devote himself to the pleasures of the table, even to the ruin of his health and prospects. And there are signs also of his want of economy and frugality in regard to the preservation of money.

But though his dominant combativeness was not capable of raising a barrier strong enough to resist the overwhelming influx of his current weaknesses, which were so opposed to the pursuits of useful industry, there are few, if any, men who were possessed of more fearless intrepidity than that which was so gallantly displayed by

Sheridan in his truly desperate sword encounters with Captain Mathews, his unsuccessful rival for the hand and heart of the accomplished and beautiful Miss Linley.

The local position of the organ of Combativeness has been already pointed out. And, to crown the full catalogue of examples in proof of this, it is gratifying to adduce the portrait of the heroic and noble-minded Gustavus Adolphus, by Vandyke.

DESTRUCTIVENESS.

WHOEVER will take the trouble to place the skull of the tiger, or of any other carnivorous animal, by the side of that of the sheep, he is certain to find a marked protuberance a little above the orifice of the ear in the former, while in the latter the same part is not only flat, but is even inclined to be hollow. In all herbivorous animals this peculiarity of form is, without a single exception, found to exist: and from the diminutive weasel to the majestic lion, through all the grades of the carnivorous species, the protuberance above the ears is a marked and invariable characteristic. There are some carnivorous animals which will feed on vegetables. The dog and the cat, for instance; and even the bloodthirsty ferret may be got to relish milk; but yet, it is certain that all three would prefer flesh. In the cat this part of the skull is relatively more developed than it is in the dog, and it is still larger in the ferret than in the cat. Are we hence to infer that the disposition to kill other animals is dependent upon the great size of this part of the brain? Certainly: if it is always found that this peculiar form is a concomitant of the disposition to destroy; and if, on the contrary, the smallness of the same part is invariably accompanied by the total absence of that instinct. Some animals take pleasure in killing more than they require for food, while others abstain from killing until

they feel the pangs of hunger. Here it may be interesting to observe another instance of the harmonious arrangement of the organs—how those, which mutually excite and assist one another are placed contiguously or nearly so. The organ, for instance, which causes a desire for food, apart from the stomach's influence, lies precisely in front of the organ which prompts the carnivorous animal to kill for the sake of obtaining appropriate sustenance; and it is natural to suppose that any considerable degree of excitement in the action of one would, of necessity, be communicated to the other; and thus is a channel opened through which the desired object may be obtained.

Some dogs take delight in killing rats, which they never eat, while others can scarcely be brought to touch such vermin.

It is not because lions and tigers are furnished with powerful claws and formidable teeth and jaws for seizing and devouring their prey, that they are endowed with the disposition to kill whatever comes in their way; for there are powerful dogs, with the like physical conformation, which, nevertheless, exhibit no tendency of the kind. The instinct to injure and destroy is often exhibited, on the contrary, by dogs which possess neither size nor strength. This physical apparatus is no more than the means awarded to animals in order to enable them to provide in the most effectual manner for the gratification of their instinctive wants. It is in the brain alone we are to look for the immediate source of those desires.

Even in the small skulls of birds a great difference, as to the size of this organ, is discernible. But as the opening of the ear in birds is placed far back, the organ

of Destructiveness lies more towards the front. Gall was the first to notice that this part of the skull is much larger in carnivorous birds than in those which live on both animals and vegetables—in the cormorant, for instance, than in the duck, and larger in the duck than in the goose, which has a more exclusive liking for vegetables. May not the large prominence behind the orbits in the cormorant embrace the organ of Alimentiveness, as well as that of Destructiveness? The cormorant is proverbially a glutton, and the gull is a voracious eater. The duck, too, is a more ravenous feeder than the goose. Hence it must be right to infer that the organ of the brain, which imparts the desire for food, should be proportionably larger in the cormorant than in the other birds. And as its position is in front of Destructiveness, there is reason to suspect that the prominence, noticed by Gall, consists of two organs, namely, those which give the desire for food and the instinct to kill. In the weasel, the stoat, the ferret, and the polecat the skull, just above the ears, is very protuberant. In the common brown rat this part is larger than in the black rat; but in these it is far inferior to the development of the same part in the weasel. In the lynx the skull just over the ears is very large, and in that destructive animal, the Ursine opossum, the same region of the head is of immense bulk. To enumerate the names of a tithe of the animals endowed with fierce and destructive propensities, that I have examined, and in which this organ is very salient, would be a tedious and an irksome task. It is enough to say that the coincidence is universal, and that smallness of the same part of the head is the invariable characteristic of herbivorous animals.

What evidence of divine prescience and provision is presented by the fact that carnivorous animals are en-

dowed both with an imperious instinct to kill other animals, and with powerful instruments of destruction, because the food necessary for their sustenance could not be obtained without using violence and causing deprivation of life, while herbivorous animals, that feed upon unresisting objects, are destitute of such destructive tendencies and weapons.

Destructiveness is thus defined by Mr. Combe—"Uses, desire to destroy noxious objects, and to kill for food. It is very discernible in carnivorous animals—Abuses, cruelty, murder, desire to torment, tendency to passion, harshness and severity in speech and writing."

Abundance of evidence has been already referred to in order to show that the organ of Destructiveness is very discernible in carnivorous animals. And as the category of its abuses so accurately expresses the mental qualities and tendencies by which, unhappily, some individuals have gained an unenviable notoriety, there can be no doubt that this organ, which we inherit in common with animals, prevails more in the heads of men, who have shamed human nature by the ferocity and cruelty of their actions, than in those humane and noble-minded personages whose lives it is edifying to contemplate. But great mistakes will occur if the destructive bias of any character be measured by the absolute size of the organ of that propensity, for in this way would some of the noblest of mankind be misapprehended.

It is the proportion it bears in bulk to the organs of the moral and religious sentiments which is to guide us in forming an estimate of the influence of destructiveness upon the conduct and dispositions of individuals. For there are men and women, of noble mental qualities, in whose heads the organ is as large, often, indeed, larger

than in some vicious criminals who have suffered death for their murderous acts. But their acts were owing to the inherent weakness of the restraining moral powers, the organs of which were small, and therefore relatively inactive in those unhappy beings. But, as the love of being actively exercised is an inherent attribute of every well-developed organ, and as this organ of Destructiveness is found to be large in many noble characters, it must be capable of evincing some other quality or mode of action, besides the impulse to destroy inanimate objects, during the violence of passion, or to take away human life. What, then, is this separate mode of action—what is the nature of this quality? It is, without doubt, an essential ingredient in the composition of an energetic character. But the energy with which it imbues the mind seems to be more impulsive and violent than that which is imparted by Combativeness, though its influence is far less continuous. The latter attribute is attended with more coolness and self-possession than the former, and its activity is not at all so dependent upon exciting influences.

Hence it would be right to infer that an individual, with a large organ of Combativeness and a small one of Destructiveness, would display, in his conduct through life, a far higher amount of continuous energy than one endowed with large Destructiveness and small Combativeness, supposing the moral and intellectual attributes of both to be pretty nearly alike. The one prompts its possessor to encounter danger at all hazards, the other to destroy the menacing object. Combativeness stands in closer relationship to the mental elements of industry than Destructiveness, and its readiness to come to their aid and impel them onwards is more certain and

continuous. A rare instance of such a combination of faculties — the industrious and propelling — appeared in the person of William Cobbett. In his head the organ of Destructiveness was large, but that of Combativeness was much larger. And, although he was never overscrupulous in his mode of assault, his onslaughts were characterised by uncommon ardour, unflagging perseverance, and crushing energy.

The histories of ancient and modern nations afford appalling evidence of the deplorable results of the uncontrolled energies of this faculty. Let us only call to mind the frantic ravings of the inhuman Caligula, and the still more maniacal outpouring of the destructive tendencies of Nero, in whom all the elements of the worst passions seemed to be concentrated. Caracalla was another monster of cruelty. Now, in the antique busts of these merciless men the part of the head lying above the ears is very protuberant, while the region of the moral sentiments is very low, especially in the two latter, for the bust of Caligula shows a better development in the moral portion of the head. And supposing this delineation of his head to be tolerably accurate, it would account for the instances of goodness of disposition displayed by him in his more youthful days, and also seems, to some extent, confirmatory of De Quincy's conjecture, that the unhappy emperor was insane.

Two remarkable incidents in the lives of the dictators, Sylla and Julius Cæsar, will exemplify the difference of temper which accompanies a large development of the organs of Combativeness and Destructiveness, and that which characterises the union of large Combativeness and a less developed Destructiveness.

When Lucretius Offella, to whom Sylla owed the taking

of Præneste, solicited the consulship, although he had not yet attained to the dignity of prætor, Sylla commanded him to retire, and as he still persisted, ordered an officer to kill him on the instant. When the executioner of this cruel and ungrateful order was brought in custody before the dictator, he ordered him to be instantly released, and then said, "Know that I have caused Lucretius Offella to be killed, because he resisted my authority," and then added the following tale. "A labourer ploughing was bitten by lice, he stopped twice to cleanse his shirt from them, but being bitten a third time, he now determined no longer to be interrupted in his work, and he threw his shirt into the fire. And I warn the conquered not to drive me to employ steel as well as fire against them for the third time."

The striking incident in the career of Cæsar, which bears upon this point, was a far greater provocative of anger, considering the critical and hazardous position in which he was then standing, and yet he did not evince the like cool ferocity even against an avowed enemy.

On his arrival at Rome from the Rubicon, and after Pompey and his great party had fled, he went straight to the inner treasury to take the money there amassed, but which was never used except on the occurrence of some great impending danger. Here he was met by Metellus, one of the tribunes, who refused to admit him. Whereupon Cæsar said, "That if he did not desist he would lay him dead in the place," and, as if he felt sorry for having used such a threat, he added, "young man, it is harder for me to speak it than to do it."

Adolescens, durius est mihi hoc dicere quàm facere. "A speech," says Lord Bacon, "compounded of the greatest terror and greatest clemency that could proceed out of the mouth of man."

In the bust of Sylla, the organ of Destructiveness is much more protuberant than it is in the most authentic busts of Cæsar. And yet with all his fierceness and systematic cruelty Sylla could not be devoid of generous tendencies, supposing this bust to be an accurate portrait of him. But these were completely overborne by other characteristics, according to the position in which he was placed. But I must remember that this is not the place for a full phrenological reading of his dispositions, else would the clashing elements of this most extraordinary man's character be easily explained by a careful observance of the indications of this bust.

The organ of Destructiveness is immense in the bust of Caius Marius, who sullied his glory, as the heroic saviour of his country, by acts of the most ferocious cruelty at the close of his mortal career. In Marius, this part of the head was larger than it was in Sylla. He was, therefore, naturally more violent, though Sylla was more systematically cruel. On the contrary, the organ is comparatively very small in the busts of Cicero and Horace. This part is much larger in the bust of Cato, the Censor, than in that of Aristides. In the fiery Alcibiades this part of the head is large; it is rather small in the gentle poet, Theocritus. What a striking difference is observable as to the size of this organ in the best portraits of Luther and Melancthon. In the former it is large, in the latter very small. It is small in the portrait of Bishop Ridley, and enormously large in the ferocious reformer, John Knox. In the fine print of the impetuous and turbulent cardinal De Retz, by Nanteuil, the great width of the head catches the eye, while the same part is small, when compared to the rest of the head, in Audran's print of the gentle and saintly Fenelon. It is

very large in Charles the Twelfth, and not at all a characteristic feature in the brave and benevolent Crillon, the favourite general of Henry the Fourth of France. This part of the head is very large in the best busts and portraits of Oliver Cromwell. It is moderate in those of the incomparable George Washington. To enumerate the vast number of cases of criminals, impelled by the instinct to murder, and in whom the organ of Destructiveness is very large, would be tedious; but yet, two or three may be referred to, and the facts in evidence being casts from nature, there can be no doubt of their correctness as to form. In the wholesale murderers, Lacenaire of Paris and Madame Gotfried of Berlin, this organ is surprisingly protuberant, but it is small in the Hindoo widow, who was a willing sacrifice on her husband's grave. In Patch, the sly murderer of his best friend, and in Rush, who assassinated his own relatives, the same part of the head is very large, whilst it is very small in the cast of the benevolent Mr. Goss, and in that of Robert Owen, whose instinctive consciousness of the absence of destructive tendencies in himself led him erroneously to conclude that they were not really inherent in the nature of man. In the cast of Crabbe, the poet, this organ is also small. And it is interesting to contrast the portrait of King Henry the Eighth, after Holbein, in Lodge's collection, with that of the chivalrous and noble cavalier, and distinguished poet, Henry Howard, Earl of Surrey, who was the innocent victim of the sanguinary temper of that selfish and remorseless tyrant. In the portrait of the king, the head, just above the ears, is greatly expanded. In that of the gallant Surrey it is flat.

There cannot exist a doubt upon the mind of any one

who will take the pains to search for evidence in the book of nature, that the seat of the organ of Destructiveness is truly established. And, as to the separate existence of this elementary faculty, the almost total absence of it in some kinds of animals, and its predominant and uncontrollable power over the actions of others, afford an incontrovertible proof. The lamb and the lion are strong examples of these opposite idiosyncracies; and in perfect accordance with every other established fact in connection with the science of Phrenology, the scull of the lamb is depressed at the seat of this organ, while that of the lion is immensely protuberant. The remarkable contrast presented in this region of the head between Robert Owen, the gentle-minded, peace-seeking philanthropist, and John Bellingham, the sanguinary, but somewhat demented, assassin of the Prime Minister, Spencer Percival, is well exemplified in Plate 4. And in Plate 5 the disparity between Mr. Goss and Patch is equally striking.

SECRETIVENESS.

JUST above the organ of Destructiveness there is a convolution of the brain, which runs horizontally to within nearly two inches of the external angle of the eye. Dr. Gall observed that this part of the head was very protuberant in those persons whose conduct was strikingly characterised by cunning and dissimulation. And, having found his first impressions corroborated in all his subsequent extensive investigations, he named it the organ of Cunning. But, as cunning is akin to deception, and deception to dishonesty, it would scarcely be fit to designate many noble characters, in whom this organ may be salient, as cunning dissimulators. The abstract nature of this faculty is the disposition to conceal. Spurzheim has, therefore, termed it Secretiveness, and this is the name which is now universally adopted. That the instinct to conceal is an elementary ingredient of the mind is manifest in the conduct of some animals. The fox and the magpie are proverbial for their inveterate tendency to conceal. It is so predominant a feature in the instincts of the latter that he delights in concealing things which are unfit for food, and not in any respect adapted to be of the slightest use to the pilfering bird himself. The dog will conceal the bone which he does not require for present use: and the secretive disposition is manifested to an extraordinary extent in all the feline animals.

How stealthily the tiger comes upon his prey; and the same disposition in the domestic cat is patent to every one. That the cunning movements of these animals do not proceed from superior sagacity is obvious, since neither the cat nor the tiger can compete, in regard to docility or instinctive sagacity, with the dog and the horse; and yet neither of these is characterised by secretive tendencies; the horse seems especially free from them, although, occasionally, he has been found to act in a cunning manner. The sheep seems to be altogether free from such a propensity; nor is it at all needful to the sheep, which is exposed to no peril in the procuring of its food. To the tiger, on the contrary, cunning is indispensable. He could not exist without it; for the animals upon which his sustenance depends are far more swift of foot than himself; and, from their predominant caution, are likely to be on their guard. Debarred by nature of the capacity for openly and directly reaching his prey, he is compensated for that want by the disposition to conceal, which so signally characterises all his habits and movements, and enables him to steal towards his intended victim until he can effectually pounce upon him.

The separate existence of the propensity to conceal is proved, both negatively and positively, by the instinctive actions of animals. Some children are endowed with it in a far higher degree than others; and its excessive activity is often productive of great mischief. Much disturbance may also be caused in social intercourse by persons who are too scantily supplied with it; for it prompts to the judicious and morally permissible concealment of our own thoughts, as well as to the prudent reserve which enables us to keep within ourselves the

intentions confided to us by others. It is, therefore, a matter of great importance to see that the position of the organ of Secretiveness should be accurately defined. To this end a vast amount of evidence has been recorded which places beyond a doubt the fact that the skull of the tiger, and of every animal of the feline kind, presents a great protuberance, resembling a considerable segment of a circle, above the orifice of the ear. This segment comprises two organs, Destructiveness and Secretiveness, the latter of which lies exactly over the former. And an equal amount of proof exists as to the entire absence of any such protuberance in the skull of the sheep, or any other purely herbivorous animal.

This part of the head is found to be extremely large in those criminals who have dispatched their victims by poison or other secret means—much larger than it is found to be in the heads of those who have committed murder in a more rash and daring manner. In Courvoisier, for instance, the cunning and cautious murderer of Lord William Russell, the organ is much larger than it is in Rush, the open and fearless slayer of the Jermy family. In Patch it was also very prominent; but this bad, ungrateful man had less caution than Courvoisier. In the wicked and deceitful Madame Gotfried, whose sanguinary temper has been already noticed, the organ of Secretiveness is extremely large, and in Palmer, the Rugeley poisoner, it is exceedingly salient and unchecked by Conscientiousness and Attachment. It is very small in Robert Owen, in the poet Crabbe, in Sir Walter Scott. But it is not necessary to accumulate instances. Any one who will take the trouble of seeking for evidence will find the fact to be as it is here stated (see Plates 4 and 5).

The predominance of this organ affords an indication of insincerity of character. It enables a man who possesses it in a high degree to conceal his real motives and intentions; and when it is connected with good talents, unaccompanied by an adequate amount of the organs of the moral sense, we have a character who knows well how to act his part through life: like Augustus Cæsar, who, on his death-bed, asked his attendants if he had not acted his part well, and called upon them for a plaudit. In all the busts of this Emperor this region of the head is very prominent. With an ample endowment of many noble qualities, Pompey the Great was yet wanting in sincerity, when his ambitious expectations were likely to be thwarted by the political intrigues of his opponents. He then set about his work "*Occultior non melior*," as Tacitus says of him; and Sallust, who was no friend of his, says he acted "*ore probo, animo inverecundo*." And, in accordance with this tendency to dissemble, the fine antique bust of Pompey is very wide at the sides, although it is also indicative of high moral and generous qualities. With a far inferior development of the moral region of the head, the bust of Caius Marius is remarkably large where the organ of Secretiveness is located: and on various occasions that great man was guilty of acts of great duplicity.

There cannot be a doubt but that a large endowment of this faculty is of infinite advantage to every diplomatist; especially when it is under the control of the moral sentiments. But, when it becomes the mainspring of political conduct, it is detestable, and not always successful; "For, surely," says Lord Bacon, "the continual habit of dissimulation is but a weak and sluggish cunning, and not greatly politic."

The great mind of Oliver Cromwell seemed to be deeply imbued with secretive tendencies, and this organ is not an unattractive feature in the best portraits and busts of that wonderful man. In Banks' fine bust of Warren Hastings the sides of the head, where the organs of Secretiveness lie, are uncommonly large: and, undoubtedly, this affection was a prevailing attribute of his character: while it is small in Nollekens' bust of the sincere, undissembling Marquis of Wellesley. In Houdon's bust of Voltaire, the same part of the head is very salient; and though open and bold in the enunciation of his opinions, genuine sincerity could not be a leading element of the character of that great genius, supposing this bust to be a correct portrait of him.

The evil results of the paramount influence of this feeling renders it a matter of the first importance to ascertain, at an early period of childhood, the proportion which its organ bears to the development of the organs of the moral and intellectual faculties. For young persons endowed with a considerable amount of it, are apt to feign excuses in order to avoid the rebukes or remonstrances of their instructors. And this is the more likely to be the case, if the desire of approbation, which renders one always sensitive to blame, be a leading feature of the disposition. In public schools an early knowledge of its presence as an active element of the character of a pupil would serve to enable the teacher to check the spread of its contaminating influence, and thus add to the lasting prosperity of his establishment, and at the same time strengthen and confirm moral tendencies in the plastic minds of his pupils.

It should be observed that the abuses of this faculty are not, necessarily, attendant upon the largeness of its

organ. Neither is exemption from its abuse always the result of the moderate development of it. For a high sense of equity, and the love of preserving an honourable reputation, combined with self-respect, will, spontaneously, and without intellectual calculation as to the possibility of inauspicious consequences, check any tendency to duplicity or insincerity: while, in the comparative absence of those noble attributes, even moderate Secretiveness may degenerate into deception in trying situations.

Secretiveness is thus accurately defined by Combe. "Uses: tendency to restrain within the mind the various emotions and ideas that involuntarily present themselves, till the judgment has approved of giving them utterance. It is simply the tendency to conceal and is an ingredient in prudence. Abuses: cunning, deceit, duplicity, and lying." The famous diplomatist, Talleyrand, is reported to have said that the use of language was for concealment of our thoughts; and his conduct through life evinced characteristic insincerity. In the cast of his head the organ of Secretiveness is large, while that of Conscientiousness is not so; and in regard to this organ, it affords a striking contrast to the head of Wellington, who was, in every position, eminently candid and straightforward.

The seat of the organ of Secretiveness is fully established.

ACQUISITIVENESS.

DR. GALL calls the faculty, which is next to engage attention, Sentiment of Property, Instinct of Providing, Covetousness, Propensity to Theft.

It seems evident enough that the terms used by Gall to designate this faculty convey the clearest notion of the effect of the proper use as well as the abuse of it. But, as Acquisitiveness is the name, now universally adopted, it may be as well to retain it, although it is by no means precise enough, since this faculty does not comprehend within its sphere of action the desire of acquiring knowledge.

That the desire of acquiring property is not an affection growing out of the necessities of society and the various wants of individuals, and that it is not the result of a compact, entered into by communities of civilised men, is certain, since the same feeling is strongly manifested by many savage tribes, who are fully sensible of the right which every member of the community has to hold and to use, as his own, the wigwam he has raised and the trophies he has acquired by his courage and perseverance: although ignorance and want of a high endowment of the moral sense often causes them to form an erroneous estimate of the rights of others. And as to the spoils, which savages gain by the combined efforts of the tribe, they are considered to be the property of the community, which they share with one another, and will fight, even unto death, to prevent other tribes from depriving them

of what they feel, by means of a primitive instinct of their nature, to be their own—their property. Cuvier, as quoted by Gall, is wrong, then, when he says that, “The idea of property does not exist in savages, and they cannot have the same notion of theft as civilised nations have.” Surely it is illogical to conclude that savage nations, because they are less sensible of moral duties, and less intelligent of the uses to which property may be applied than civilised ones, are therefore not naturally endowed with a sense of property. The propensity to steal is in itself the strongest proof of the existence of a primitive feeling which desires to acquire property; but the proof acquires additional force, when the passion for hoarding money and other kinds of property takes possession of the soul, while there is, at the same time, a total absence of any inclination to make use of it for the sake of gratifying any other want. For example, when a man of immense fortune, the augmentation of which seemed to be the sole object of his still shrewd understanding, was found to lead a life of perpetual seclusion, in an obscure apartment, from which nothing that had once entered it was allowed to be removed, be the object ever so valueless, and who, with the exception of one coarse, plentiful meal a day, denied himself the commonest comforts of life, it would be thought, and not without reason, that the mind of such a man had merged within the confines of lunacy; but, though his faculties may have lost their equipoise in regard to the delusions of avarice, he still retained his intellectual acuteness seemingly unimpaired. For in a very long pecuniary account, amounting to many thousands of pounds, he detected that there was still one penny due to him, and he waited for some hours while

the clerks, where his pecuniary investments lay, were searching the account books to satisfy him. And it resulted in his being right. The miserly disposition of Mr. Elwes and the soundness of his judgment are well-known facts.

An individual died in Chelsea, not many years ago, who contrived to accumulate nearly half a million of money; and yet his house was always the abode of penury.

Such cases as these are of themselves enough to prove the existence of a special faculty which gives the desire to accumulate property, irrespective of the wish to be independent, or of enjoying the good things of life, which money alone can obtain.

Gall, when he was physician to the deaf and dumb institution at Vienna, found that some of the poor children had no inclination to pilfer; while others, who were inclined to do so, were more or less easily persuaded to abstain from taking what did not belong to them: but that a few were incorrigible thieves. It could not be from any knowledge of the impropriety of stealing that the first class abstained from pilfering. It evidently was the result of the absence of any instinctive desire to acquire property. Nor can the inordinate strength of the propensity in the others be derivable from their sense of the uses to which their acquisitions could be applied.

Do we not see it sometimes reported in the newspapers that even ladies of some standing in society, both young and old, are guilty of larceny at shops and bazaars, although they are not destitute of the means of purchasing the articles which they are thus instinctively impelled to steal. There have been individuals who have taken silver spoons from the tables of their friends,

apparently without any intention of keeping them, but from the inward pleasure afforded by the act of abduction. Some years ago a lady of rank in this country was allowed by tradesmen, who were aware of her unfortunate habit, to purloin things of value from their shops, because they knew that on their sending in a bill of the things, she would instantly pay the amount.

Some of the lower animals, also, possess this propensity in a remarkable degree. It is strikingly characteristic of the magpie and many other birds. And they seem to be able to appreciate what belongs to them. Old birds, it is said, retain possession of the nest built by themselves, while the young ones, which are hatched and reared in it, have, in due time, to construct nests for themselves, respectively. And migratory birds are known to return after a season, to the haunts which they had previously occupied and forcibly to repel all intruders. The disposition of the ant to provide food and laboriously store it up for its sustenance through the winter, does not proceed from any intellectual foresight of the impossibility of collecting such a store of provisions during the cold, unproductive winter months. No, it is because the primitive feeling which prompts the little creature to acquire food, and to hoard it, becomes more ardent in the summer heat, owing, no doubt, to increased activity in the circulation of blood through the brain. The bee is another extraordinary example of the instinctive nature of the desire of providing against future wants, the occurrence of which they cannot be supposed to expect, since they are unendowed with intellectual foresight. And is it not a striking mark of the wisdom and goodness of the Creator, that a great augmentation of that desire should take place at the very time when Nature spreads before

them the beautiful materials from which they extract their delicious food? That these insects are impressed with a sense that the hive, with its contents, is their own—their property—is shown by the furious attacks they make upon anything that seems likely to deprive them of it.

With such incontrovertible evidence before us, it would be irrational to deny that the desire to gain property, and to take care of it, is an elementary faculty which displays itself in various degrees of strength, both in man and animals. And as such an admission implies the presence of a distinct organ, through which that propensity can alone be manifested, its local position shall now be pointed out.

Gall made the discovery of the true place of the organ of Acquisitiveness, first among youths of the lowest class, whom he used to congregate in his house, and to whom he gave money, with the view of inducing them to show their natural tendencies. Some of these took great pleasure in telling of their adroitness in pilfering without being detected. Others had no objection to share in the plunder, but were not in the habit of committing theft themselves, while a third part of them turned away, as if surprised at such wickedness.

In the first, Gall always found a marked protuberance at the side of the head, in front of Secretiveness, and a little higher up. In the second the development of the same part was much less, and in the third class it was quite flat. And, although the general conformation of the head differed widely in all of them, there was always a perfect coincidence in regard to the shape of it at the temples. This evidence was confirmed by the heads of the poor children at the deaf and dumb school. In

hospitals, and in prisons also, he found the disposition to steal, and great breadth of head at the same spot, to be invariably coincident, and an utter indisposition to steal or be covetous was always accompanied by flatness of the same part of the head.

Spurzheim, who witnessed many of these cases in common with Gall, testifies to the same fact, and their observations have been confirmed by all subsequent investigators. The museum of Mr. De Ville contained a sufficient amount of evidence, regarding this point, to confound the prejudice of the most sceptical opponents. But it must not be forgotten that in the heads of all incorrigible thieves there is also a marked deficiency of the moral organs, but especially of Conscientiousness. For whenever a large organ of Acquisitiveness is found in conjunction with a predominant development of the moral organs, it imbues the mind with a powerful incentive to honourable industry, and renders the possession of property sacred.

Amongst the most diabolical instances of the dominant influence of this faculty, which have happened in this country, must be reckoned the culprits Burke and Hare of Edinburgh, and Bishop and Williams of London. These men murdered their helpless victims in order to earn a livelihood by the sale of their bodies to the anatomists. In the casts of their heads the organ of Acquisitiveness, and also those of Secretiveness and Destructiveness, are very large, while the moral region is remarkably low. In Burke the organ of Benevolence was more developed than in the others, and it appeared that he required the stimulus of whisky before he could bring himself to dispatch his prey. The others did not seem to feel that they were doing what was wrong, if they could but escape

detection. The organ is very large in John Lynn of Belfast, who went to his father's house to demand a bird which he said was his own, and, when the old man refused to order his daughter to give it up, the ferocious savage murdered him with a pair of tongs. In this man the organs of Combativeness, Destructiveness, and Self-esteem were very large, and Conscientiousness small. In Puckle, the accomplice of the murderer Locksley, Acquisitiveness is very large. He refused to share the spoil; and, when his companion insisted upon a fair division, Puckle was overheard saying that if Locksley would not desist from demanding his share he would turn king's evidence. They were both forthwith arrested, tried, convicted, and hanged. Puckle had also large Self-esteem and moderate caution. In Rush, Courvoisier, and Greenacre, whose career of villany is more recent, the organ of Acquisitiveness is very protuberant, while the development of the moral portion of the head was, from its imperfection in each, inadequate to restrain the dishonest exercise of this organ. The head of Greenacre, indeed, is indicative of a great deficiency of the moral and religious sentiments, while Acquisitiveness is remarkably salient. In Patch, the heartless murderer of his generous and confiding friend, in order to get his property, the organ of Acquisitiveness is exceedingly large (see Plate 5).

It would be tedious to enter further into details with respect to the positive evidence of the existence of this organ and its seat in the brain, yet it may be well to adduce a few well-known negative instances.

The organ is small in the masks of Lord Chatham and his son William Pitt, and disinterestedness with regard to money was a marked feature of their characters.

Relative smallness of the same part of the head characterises the portraits of many other public men upon whom the love of property seemed to have little influence. It is small in the head of Robert Owen, who certainly never showed any fondness for accumulating property. He was not careful enough of it. There is the cast of the head of a Mr. Goss, in which the organ is remarkably small. He is said to have shown very little regard for money, and being a man of property, he distributed a great deal of it in relieving the wants and embarrassments of persons who had no personal claim on him (see Plate 5). In Eustache, the benevolent negro, who had the prize of virtue bestowed on him at Paris for his rare generosity, the organ is of moderate size.

Insanity is sometimes the result of the inordinate activity of the organ of Acquisitiveness, and there was in this country lately a man who had made an enormous fortune by trade. Nevertheless, fear of the workhouse was always agitating him. But it is said that he found great relief from receiving a weekly stipend from his own house of business amounting to no more than twenty shillings. Other men might be named who own large fortunes, and yet are constantly in dread of falling into the jaws of famine. These cases afford additional testimony of the independent existence of this faculty, but evidence is not producible as to the conformation of the heads of these unhappy individuals. Experience, however, truly warrants the inference that the part of the brain called the organ of Acquisitiveness is, in each and all of them, in a morbid condition. To sanction this inference I will briefly mention a case.

A journeyman watchmaker, Mr. M——, became a successful Baptist preacher, and contrived to secure a

large sum of money. But the more he gained the more anxious he became with regard to property, until at last he fell into a monomaniacal state; and, although capable of conversing rationally on other matters, he lost his balance and became confused whenever the subject of property was touched upon. In this man's head the organ of Acquisitiveness was very large; and, besides, upon examining the brain, it was found to be in a softened, disorganised state, exactly beneath the external protuberance which Gall calls the organ of the Instinct of Property.

Two more facts, the one an affirmative, the other a negative proof, just now occur to me, which I would fain mention. The late Mr. Deville was once invited by some gentlemen to accompany them to St. Pancras workhouse, in order to make a phrenological survey of the inmates. On this occasion he was struck by the immense prominence of the organ of Acquisitiveness in one of the men. This man, in accordance with the prediction of Deville, had been frequently guilty of petty larceny. He was, in fact, a most covetous creature. He even refused to allow a cast of his head to be taken, although he was flatteringly told that they would place it in a gallery with the casts of great men. But though he seemed pleased at this intimation (for he had a very large organ of Self-esteem), he still refused. He consented, however, when he had ten shillings put into his hand by a colonel, who was the principal person present. But this did not satisfy his craving for money, for when Deville was leaving the house this avaricious creature stood before him at the door, and asked him for some silver. On being told that the colonel had already paid him well, he said "Ah, but you have taken the head and ought to

pay me for it." In this case, excessive covetousness was coincident with a very large organ of Acquisitiveness, stimulated by inordinate self-love. The other was a poor woman endowed with a cerebral organization of rare excellence, who had suffered an attack of temporary insanity, in consequence of a wound inflicted, without her cognizance, on her moral sense. In the head of this poor woman the organ of Acquisitiveness is very small. And as a cast of her head also was wished for, she was asked to say how much money she required for consenting to have it taken. Her reply was, that they might take the cast without cost, as she did not want money. She was taken care of there, and had what she required. In the former, the head was in a high degree convex at the lower part of the temple, about an inch and a half from the external angle of the eye. In the latter, the same part was flat, and even inclining to be concave, on one side especially.

The love of property, then, is an elementary attribute of the human mind, which exercises a dominant influence over our actions. It is to create a salutary check to its exorbitant and selfish instincts that intelligence, prompted by that divine combination of conscientiousness and benevolence, denominated equity, has framed laws to render property secure in the hands of those who have honestly earned or inherited it.

What is it that gave rise, at first, to the making of laws for the protection of property, but the occasional instances, manifested by some individuals, of insatiate craving for the property of others, and the violent measures resorted to by some to obtain possession of what was not their own? The desire to acquire property, then, must be an elementary instinct of our nature, and existed

in the days of Cain, as it does now, before human laws were thought of.

This sentiment is, perhaps, of all the primitive powers, generally the most potent instigator of the active and industrious use of the intellectual faculties. It is in the highest degree an organ of Concentrativeness, though like every other simple abstract faculty, it cannot produce the effects of intellectual concentration.

The possession of property, when it is well made use of, is the fertile source of happiness to him that gives and him that takes. It enables its possessor to comfort those who, without means, are pining in sickness and in sorrow, and to build a resting-place for the "weary and heavy laden," as well as places of moral and intellectual instruction for the children of the poor. Nations abounding in wealth can furnish materials for the preservation of their independence, while those in want of it must rely upon the plunder of their enemies for subsistence. But to effect this object they must be stronger and better disciplined than their foes. Nevertheless, when a people individually and collectively consider riches their *summum bonum*, as the Carthagenians did of old, they are sure, sooner or later, to succumb to some unscrupulous, rapacious invader. Julius Cæsar felt that money conferred power on its possessor when he uttered that memorable saying, namely, "that two things were requisite for conquest—money and soldiers—for with money you can get soldiers, and with soldiers you can get money."

Effectually to secure the safety of one's native land, then, it is necessary to accumulate property. But to effect this men should be industrious and frugal. Industry and frugality are therefore necessary ingredients of patriotism, for without money the noblest aspirations

of patriots are evermore likely to be foiled. Still the great God of all has not granted that the victory should always be with the strong.

But though the accumulator of money is indirectly doing a patriotic act, yet he may not be, in the least degree, inspired with the feelings which warm the breast of the patriot. Indeed, it is proverbial that the purest and most disinterested patriots cared little for money. Property is, therefore, an auxiliary, but not a quality of patriotism. From want of property persons, possessing the moral sense in a high degree, are liable to have their principles suspected, when embarrassments prevent them from fulfilling their engagements within the stipulated period. And, from the same cause, individuals of the most affectionate, benevolent, and unselfish dispositions are precluded from the hope of being able to relieve distress in all cases, or to promote the independence and happiness of those that are near and dear to them.

To afford parents a rational hope that their children shall never be placed in such a dangerous and disheartening position, there must not be any want of care in training them to habits of industry and frugality. Without the latter attribute, even industry and skill will be unavailing.

Yet, with all the good results which arise from the well-directed energy of the sense of property, it is essentially an animal feeling or propensity; and it has been always, and in all climes, the fertile source of crime and misery.

If we would have a thorough notion of the perfidious nature of the unhallowed effects of covetousness, unrestrained by moral principle, it is only necessary to read the speeches of Cicero against Verres, the infamous

Roman governor of Sicily; or the no less eloquent orations of Edmund Burke in supporting his charges against Warren Hastings, for sanctioning the cruel tortures to which his subordinates put the unfortunate Hindoos, with the view of extorting from them all their worldly means of subsistence.

Sometimes this faculty may be well developed, and yet there may be no disposition to accumulate wealth. It then finds pleasurable excitement in collecting such objects as are pleasing to the other leading faculties. Large Form and Colour, for instance, would lead to the collection of pictures and works of art in general. The lover of music will spend his money in accumulating the finest violins to be found, if that happen to be his favourite instrument; and the antiquarian will amass everything he can find which are the curious remains of times long gone by. The naturalist, like John Hunter, will spend almost his last shilling to get some rare object of natural history. And men fond of literature are known to have purchased books which they have never even opened from their wrappers. The organ is established beyond doubt.

CONSTRUCTIVENESS.



THIS is another of the faculties which man possesses in common with the inferior animals. Some of these, however, are entirely destitute of the mechanical instinct, while others are, in a striking measure, endowed with it. And this power is not dependent upon the superior docility of the animal, since it has been denied to the sagacious dog and the tractable horse, and conferred on the bee and the beaver. Even birds, that are so low in the scale of intelligence, manifest great mechanical aptitude in the manner of building their nests. These facts alone are enough to show that this instinctive faculty of the mind does not at all depend upon the amount of intelligence with which an animal is gifted. But when it is found to be an indubitable fact that men of the highest intellectual endowments have never evinced the slightest tendency to devote themselves to practical mechanics, or to take much pleasure in mechanical science, it is not going too far to say that all mental operations which are purely intellectual can be successfully carried on without the aid of the faculty called Constructiveness, although it has been supposed by some persons unacquainted with the principles of Phrenology, that it is an essential ingredient of the talent for literary composition.

But if this were the case the organ should be large in all those great orators whose sentences are remarkable for the harmonious collocation of the words of which they are composed. But, since it is only of moderate development in the masks of Chatham, Pitt, and Fox, with many others, whose readiness in the constructing of sentences was instinctively active, it is clear that the mechanical faculty is not needed for the display of those qualities. Cicero never evinced any predilection for mechanics, and yet, is there to be found in the whole range of literature anything more harmonious than the style of his literary compositions? And in poetry where is to be found any one superior to Horace in the power of producing melodious associations of words? Although, like Rome's greatest orator, he was not endowed with mechanical tendencies. Oh! no. This talent for literary composition depends much upon the vigour and the active presence of the organs of Time and Order, as has been already noticed when treating of intellectual Concentration, and which shall be further explained hereafter.

But if Cicero and Horace used language as the fitting exponent of their noble intellectual conceptions, how came it to pass that Archimedes loved to give practical effect to his grand geometrical conceptions by means of the constructive faculty? It is because this faculty was a predominant ingredient of his mental constitution. And the cause of this predominance may be traced to the prominence of the organ of Constructiveness in the bust said to be of him. The same organ is remarkably salient in the bust of Marcus Vipsanius Agrippa, to whose mechanical and engineering skill was due, in a great measure, the final victory of Augustus over the brave son of the great Pompey, while it is flat in the fine character-

istic bust of Lucian, whose dislike to the pursuit of the sculptor's art, which requires a considerable amount of manual dexterity, caused him to forsake it for the paths of literature, which were more germane to his paramount organ of language. And is it not certain that, like Horace and Cicero, he has, in his inimitable dialogues, left signal evidences of his power to build up a literary temple, remarkable for the originality of its form and the constructional harmony of its proportion?

The primitive nature of the mechanical tendency is confirmed by the fact that some children of tender age have displayed great manual dexterity in the construction of machines, in modelling, and in drawing, without the prompting of emulation or the influence of example. Canova and Chantrey in early childhood were led by their own spontaneous instincts to model figures, even without knowing the plastic material which is used for that purpose, and without instruction or suggestion from any quarter. The facility and grace evinced by Sir Thomas Lawrence, when a mere child, in his drawings, was the surprise and admiration of his friends. Michael Angelo and Sir Christopher Wren in early boyhood produced tokens of their future excellence in the charming arts of sculpture and architecture. The precocious genius of Voltaire, and that of Pope, "the little nightingale of Twickenham," did not assume a like form. And why not? It was not in the nature of things that they should do so, because they possessed not a sufficient endowment of that organ in the brain which is conspicuously characteristic of great mechanicians and artists. Their genius shone forth in the transparent garb of language, which is the most complete exponent of our thoughts and feelings, as well as the most affecting, though, in some cases,

perhaps, the palm must be awarded to music. So thought Thomas Moore, when he was composing his beautiful melody, which begins thus—

“ Music, oh, how faint, how weak
Language fades before thy spell;
Why should feeling ever speak
When thou canst tell its tale so well ? ”

The wonderful influence of the constructive faculty in promoting the blessings of civilisation cannot be too highly extolled, and the men who, through its means, have led the way to this happy consummation are entitled to rank amongst the greatest benefactors of mankind. To James Watt is due the transcendent merit of having brought the steam engine almost to a state of perfection, though he cannot claim the honour of having been the first to attempt the construction of it, even in its rudest form. It may now be said, almost without exaggeration, that it has annihilated both time and space, since, without its potent aid, as it is applied to navigation, the submarine electric telegraph cable could not have been successfully laid. Here the eminent name of Wheatstone recurs to the memory. And it cannot be forgotten that to the mechanical genius of the humble and comparatively illiterate miner, George Stevenson, we owe the locomotive and the Geordie safety lamp. Nor should the name of that great and bold mechanical genius, John Smeaton, be omitted here—Smeaton, the builder of that seemingly indestructible lighthouse upon the Eddystone Rock, and Rennie, that prince of bridge makers. And the Brunells, both father and son, with the younger Stevenson. How grand are some of the efforts of their mechanical genius! And what bright prospects are held out to us, through the labours of all these great men, of

the rapid advent of happiness—more complete and more widely diffused than it has ever yet been the lot of mankind to enjoy.

Now the true source of this special talent must, like that of every other talent, be sought for in the anterior lobe of the brain, the lineaments of which are displayed with undeniable exactness upon the forehead ; unless the condition of the skull be altered by disease or extreme old age.

But it should always be borne in mind that this organ does not include within the scope of its action all the qualities necessary for the carrying out of its mechanical suggestions : for without an adequate development of the organs of Form, Size, or the proportional fitness of parts, Weight, or the sense of resistance, and Locality, or the sense of the relative local position of things, with that of Order, the simple impulse to construct would avail but little. On the other hand, these organs, howsoever well developed, would prove to be utterly inadequate to suggest intricate mechanical combinations in the absence of a sufficiently developed organ of Constructiveness.

In Deville's collection there was a cast of a gentleman which afforded a signal example of this fact. His head was, to an uncommon extent, wanting in an adequate share of the organ of Constructiveness. But there was an ample endowment of the auxiliary organs above-named. Now, this man was singularly deficient in manual dexterity : and his conception, regarding mechanical science and art, was very meagre. Not because he was wanting in capacity to form a just appreciation of the subsidiary attributes of mechanics, in their separate individual natures, but from his inability to form a clear conception of them in their combined and mechan-

cally-adjusted condition. This gentleman felt convinced that if he were destitute of a roof to shelter him he could not, though adequate materials were at hand, construct even a hut of the rudest structure for his own comfort.

By the side of that cast there stood, as a marked contrast, a cast of the head of the late Mr. Henry Earle, the eminent surgeon of Bartholomew's. In this cast the organs of Size, Weight, and Locality were well developed. But they could not be said to be so salient as they were in the other. To be sure the upper region of Earle's forehead was much more prominent, and this would naturally cause the organs in question to be relatively less marked. But, with regard to Constructiveness the region of the head, where that organ is located, is remarkably convex and protuberant in the cast of Henry Earle, while in the other it is depressed and even concave at the seat of the same organ.

Now, Mr. Earle was remarkable for the mechanical ingenuity which he displayed in the construction of easy chairs and beds of his own invention, with the humane view of comforting poor and sorely-afflicted patients, as well as of hastening the cure of their fractures and dislocations. And here it may be added, as another striking example of the truth of Gall's discovery, that the organ of Benevolence was very large in his head.

Those organs already named, which are the necessary helpers of that of the mechanical instinct, are always very prominent in renowned engineers; and those distinguished ones before alluded to, are signal instances of that fact.

These indispensable coadjutors of Constructiveness are always large in great geometers. In Descartes, Newton, and Herschell, for instance, they are strikingly character-

istic, while in the historians, Gibbon and David Hume, they are not salient features. They are of moderate relative development in the poets Burns, Clare, and Bloomfield, while they are predominant in the foreheads of Watt, Stephenson, and Brunell. In the cast from life of the late eminent constructor of mathematical instruments, the late Mr. Troughton, the same set of organs is remarkably prominent; and in his cast a receding forehead gives additional speciality to this form of the brow. That of constructiveness was also well-developed. The forehead of Troughton bears a likeness to that of Airey, the astronomer royal. And Troughton, too, was an eminent mathematician.

Both these casts were taken by Deville from life, and they formed conspicuous objects in his gallery, as being symbolic of rare mathematical talents. But while the mechanical instinct would be used by Troughton as the most efficient handmaid of his geometrical abilities, that of numerical calculation would be used by Airey as a sure and potent lever for holding in their proper position the grand objects of his astronomical observations, because in the cast of his head the organ of Number forms a conspicuous feature. This cast of Troughton has more than ordinary interest attached to it from the fact of its having been the alleged cause of triumphant merriment to those who, without having had the slightest practical knowledge on the subject, disbelieved in the truthfulness of Gall's doctrine, as to the specific functions of the brain.

In the "Diary of Thomas Moore" it is stated that in May, 1826, the poet dined with the sculptor, Chantrey, and they "talked of Phrenology, Spurzheim's mistake at Chantrey's in pronouncing Troughton from his skull to be a poet, and Sir Walter Scott a mathematician. Chan-

trey first inclined to believe in the science, but, upon seeing, from his experience, that there were clever heads of all sizes and shapes, lost his faith in it." Clever, no doubt, but not in the same line.

Surely, if Moore had felt inclined to give any attention to Phrenology, as a science of the mind, he could not, considering his superior acuteness and penetration, be for one moment biased against it by such a shallow objection as that made by Chantrey. Why, the objection of the observant, but in this case, at least, unphilosophic, sculptor offers sure testimony to the truth of this much abused doctrine. For the first of its fundamental laws inculcates this fact, namely, that different talents and dispositions are the constant result of diversified forms of the head. And as no two persons were ever yet endowed, in an equal measure, with the same talents and tempers, so there has never been seen two heads that were exactly alike. And this is the case even where many strong resemblances exist. But where the characters are strikingly antagonistic, the diversity of form is conspicuous. Again, suppose a perfect uniformity of contour to exist in regard to the head, what would be the result of that upon the progress of society? Why, it would so turn out that there would be a total lack of those special personal endowments which certain individuals enjoy in an eminent degree, while others shine as luminaries in some opposite sphere of genius. And then would be lost to mankind the advantages of that division of labour to which peculiarly gifted men are driven by the prompting of their predominant moral and intellectual instincts.

But though this eminent and fortunate sculptor was evidently wrong in respect to the nature of the influence

which led him to abandon his inclination to put faith in Phrenology, it cannot for a moment be surmised that so high and exemplary a character would misstate a fact of which he was himself cognizant, for the sake of casting a slur upon a noble science when struggling against opposition, which its truth alone has enabled it to outlive.

Admitting, then, that Spurzheim did pronounce a judgment glaringly inconsistent with the facts of the case, it is Spurzheim alone who was at fault, and not the laws, whether general or particular, of that doctrine of the only true physiology of the brain, to the promulgation of which he devoted a singularly virtuous life; and the philosophy of which his powerful analytical and methodising intellect contributed to build up and to symmetrize. No; Phrenology was not found wanting in truthfulness on this occasion; for if Chantrey's bust of Troughton bears a faithful likeness to the cast taken by the late Mr. Deville from the living head of that celebrated philosophical instrument maker and able mathematician, there could not be seen anywhere a truer example, or a more conclusive one, of the perfect truthfulness of Phrenology.

And as to Sir Walter Scott's head, there cannot be found any other so highly characteristic of the genius which has made him famous. For, unlike that of Troughton, its form announces it to be especially the fitting temple of the spirit of chivalry and romance. Moreover, the superior development of Eventuality imparted to his mind a rare capacity for the distinct perception and accurate memory of events. And the singular largeness of his organ of Veneration would lead him to use his great powers upon the history of bygone days, and on the characters of the persons who flourished

then, rather than upon the passing transactions of his own times.

A man with a head shaped like Sir Walter Scott's would be inspired by an imagination so vivid and romantic that to him the pursuit of the positive rules of mathematical science would seem dry and uninteresting. But, at the same time, it is a palpable fact that the development of the organ of Ideality, that essential elementary ingredient of a truly poetical mind, was not a salient feature in the head of that great genius. It is probably to this cause one should trace the depreciating tone in which Coleridge was used to speak of Sir Walter's poems. But if Spurzheim was led into error with respect to Scott's poetical genius by the unexuberant development of the organ of Ideality in the poet's head, it is very strange that he should, at the same moment, pronounce the geometrician Troughton to be a poet, since that same organ was not by any means a prominent feature of his head. And this will appear clear to any one who compares the casts from nature of Troughton and Wordsworth—a poet over whose thoughts the sentiment of ideal beauty shone forth conspicuously even among the greatest of Nature's bards.

It is but just to the phrenological reputation of Spurzheim to state that in his reply to some unfounded criticisms in the *Quarterly Review*, and elsewhere, he positively denies that he ever made such remarks on the head of Horne Tooke, in Chantrey's studio, as had been reported. And as to the story about having in his enthusiastic admiration pronounced the head of the author of "The Diversions of Purley" to be that of a true born poet, it is highly probable that it is only a new version of the one about Troughton and Scott.

And the silence of Spurzheim respecting the latter affords good ground for thinking that the story was an invention of one of Chantrey's subordinates, and not a thing witnessed by the great sculptor himself.

In the most skilful and adroit operators in difficult surgical cases the organ of Constructiveness is always well marked. And some eminent names might here be adduced to prove that fact. Inferior instruments in the hands of such men could be rendered more effective than those of the most approved adaptability and excellence, even in the hands of persons possessing an accurate knowledge of the anatomy of the parts to be operated on, but who are wanting in Constructiveness.

An interesting example of this kind of dexterity occurred in Dublin about forty years ago, in the person of the Surgeon-General of Ireland, the late Sir Philip Crampton.

One day, as that eminent surgeon and chivalrous-looking gentleman was going the rounds of his patients, mounted on his fine black horse, through Brittain Street, his attention was attracted by an anxious-looking crowd at the door of an apothecary's shop, which stood at the corner of Gardiner Street. In his usual agile fashion he instantly dismounted and rushed into the shop, where he saw a baby, the son of a Roscommon gentleman, in a terrified nurse's arms, on the point of being choked by something it had been eating. Crampton called for the proper instrument, but there was not one in the house. And when the shopman was about sending for one Sir Philip hastily exclaimed—"Oh, that will never do. The child will be suffocated if he be not relieved instantly." And, as he spoke, he wrapped his pocket-handkerchief slightly round the end of the slender ratan, which he was using in lieu of a whip, thrust it with gentle adroitness down

the throat of the child, withdrew it, and instantly the livid cheeks of the little sufferer assumed their natural complexion.

It is not manual dexterity that is the most marked characteristic of this affair. Rapid constructive adaptation of an instrument, seemingly incongruous, at a perilous juncture, and presence of mind, are its leading features.

A fact here occurs to me that may not be deemed quite irrelevant in a book which treats of the instincts and cerebral organs of animals, though it has no bearing upon the faculty now under discussion. It is this—Sir Philip Crampton was in the constant habit of leaving this favourite black horse of his alone in the street, while he himself was engaged with his patient. On such occasions poor boys, anxious to earn a trifle, would officiously strive to catch hold of the reins; but the sagacious animal, with more the expression of archness than viciousness about him, would “turn tail” upon them, not with the view of running away himself, but of causing them to keep at a salutary distance.

The instinctive prompting of this primitive faculty in persons endowed with a fine development of this region of the brain is often strikingly shown, even though their education and position in life precluded them from mechanical pursuits. No sooner do they take a house, for instance, than they have part of it pulled down in order to rebuild it in their own fashion. Ladies who evince taste and dexterity in trimming their bonnets and cutting out their dresses, and who take a pleasure in being thus occupied, are remarkable for the protuberance of the same part of the head, while the reverse is the case with those who are destitute of such talent.

The organ of Constructiveness is very large in the skull of Benvenuto Altoviti, the founder of St. Luke's Academy at Rome, and the friend of Raphael. This skull, though a notable illustration of what has been just stated, is named here, not as an example only, but because it was for a long time supposed to be the skull of Raphael himself. And, as such, was preserved with great care in that academy, and also because it serves to illustrate the truth of Gall's doctrine in regard to the organs that are the indispensable auxiliaries of a great painter.

Some thirty years ago, however, that supposition was proved to be a mistake, for on opening the tomb of Raphael, which lay under the altar of the Pantheon, there was found a skeleton, with the skull imbedded, in a slight degree, in a tenacious soil. To this receptacle of the most divine of painters the authorities were directed by a recently discovered manuscript of Raphael's, in which he expresses a wish to be buried under the altar of the Pantheon Chapel.

The length of the skeleton corresponded with the recorded stature of Raphael, and the skull, of which two casts only were allowed to be taken, was pronounced by Mr. Combe to be perfectly in accordance with his genius and dispositions, after having carefully examined one of the casts, by favour of the owner of that interesting relic.

This, the real skull of the prince of painters is not so large as the one so long thought to be his, and the region of the animal propensities are not at all so strongly developed. It is indicative of great moral refinement and warm sensibilities.

I am not sure that Mr. Combe was able to form an estimate of the size of the organ of Form in this skull. But if he has, the fact has escaped my memory. It is,

however, certain that all the portraits of Raphael, painted by himself, display a development of the organ of Form, which is not surpassed in prominence by that which is to be met in the picture or bust of any other artist, not excepting even Michael Angelo, in whose portrait, painted by himself, and engraved by Longhi, the organ of Form is exceedingly large.

Now, it is worthy of note that the skull preserved in the academy of St. Luke is not remarkable, like those portraits, for the saliency of that organ, though it is well marked. Neither is there a paramount development of the organs already named which are indispensable agents in the completion of practical artistic genius. But the organ of Constructiveness was very protuberant, and so was that of Ideality. By means of the latter the mind of its possessor was doubtless deeply imbued with a keen sense of the beautiful in nature and in art.

And this disposition manifested itself in his friendship for Raphael, his generous patronage of artists, and in building a temple for their special edification and instruction. It is clear that in choosing this mode of manifesting his love of the fine arts, and his generous care for their advancement, he was influenced by the promptings of a very large organ of Constructiveness, with superior Ideality, and an adequate endowment of Form, Size, and Colour.

It would be interesting and instructive in a phrenological point of view, to institute a comparison between those two skulls. But this is now not possible in this country. Still there is ample facility afforded for testing the correctness of what has been just said respecting the skull which is now proved to be that of Raphael's friend, Altoviti.

There is to be seen, for instance, in the shop of any eminent print-seller, the portrait of a very handsome man, beautifully engraved by Raphael Morghen, and also by Strange, after a picture by Raphael, and which was long thought to be one of the painter himself, but which has since been pronounced to be the portrait of the founder of St. Luke's Academy, the said Benvenuto Altoviti.

The fine lineaments of the forehead in this print closely resemble those of the skull in St. Luke's Academy, and the appearance of the organ of Form accords with what has been said above in regard to its degree of development in the skull.

Now, if this print by Morghen be compared with that of Raphael by Forster, of Paris, after the beautiful head of the painter himself in his grand picture called the School of Athens, it will be easy to see that the organ of Form is much larger in the great artist than in his accomplished friend, who was, nevertheless, endowed with such a development of the organ and also of that of Colour as rendered him capable of loving and of justly appreciating the beauties of painting, sculpture, and architecture.

It is indeed quite certain that the organs which are auxiliary to Constructiveness, and which have their seats in the lower portion of the forehead, are found to be protuberant in all great painters, sculptors, and architects. What a striking contrast there is in respect to the form of the brow between Michael Angelo and that ornament of literature, Cardinal Pietro Bembo, who, to use the words of Roscoe, "emulated Cicero and Virgil with equal success, and recalled in his writings the elegance and purity of Petrarch and Boccaccio." But Bembo had no internal promptings to urge him to tread in the same paths that were illumined by the genius of Michael Angelo

because he was not endowed with an adequate development of those organs. This great disparity of size, as regards the organs just alluded to, is strikingly marked in the fine and rare engravings of their portraits in profile by their distinguished contemporary, Julio Bonasoné.

Constructiveness and its essential auxiliaries are finely developed in a plaster mask of that eminent painter Maclise. And I have heard that rare scholar and humorous poet, the Reverend Francis Mahony, better known as Father Prout, say that Maclise painted with great alacrity. The same set of organs are very large in the casts from nature of Canova, Gibson, and Bailey, of Lawrence and of Chantrey; and in the posthumous plaster mask of the famous sculptor Rubilliac those organs are exceedingly large. Now, the works of this sculptor render him remarkable even amongst the greatest of artists for the beauty of his manipulation. His noble bust of the celebrated Lord Chesterfield is a fine example of the exquisiteness of his manual dexterity.

In the posthumous mask of the famous line engraver Bartolozzi, the organ of Constructiveness, with Form and the rest, is very salient; whilst, on the contrary, the same organ is singularly flat in the mask taken after death of Doctor Samuel Johnson, who seemed to be in a marked degree incapable of manifesting even ordinary adroitness in the use of his hands.

That it is to the anterior lobe of the brain the mechanical instinct is to be traced, and not to the influence of the human hand, as some one has preposterously imagined, has been shewn in the case of Thomas McDermott, who was born without hands or feet—a case that has been particularly noticed in my effort to bring to light the true and ultimate source, whence springs what psychologists

call Volition—that living force which impels and guides the movements of the muscles of voluntary motion.

But the foreheads of great engineers, architects, and sculptors, often differ much in form as regards their general contour. That of the elder Brunell differs much from that of George Stevenson, judging by their casts taken from nature. The fine busts of Watt and Rennie, by Chantrey, display in the forehead discrepancies of form. And from these it should be inferred that the former would be more disposed than the latter to search for knowledge of various kinds through the paths of literature. And if his genius for mechanics had not been predominant, there are to be noticed in Watt's forehead indications of superior ability for the pursuit of the less exact sciences, whether moral or physical. There are cerebral signs, no doubt, that Rennie also was capable of shining in the same line, but the symbols of intellectual versatility were more strikingly manifested in Watt.

No two foreheads can be more unlike than those of the eminent engineers, Mr. Hawkshaw and Sir Charles Fox.

But notwithstanding these diversities of general conformation it will always be found that there is an identity of development at the lower part of the forehead, and of the temple, commencing below, nearly an inch above the external angle of the eye, in all those who have displayed a genius for mechanics, and in those who have rendered themselves remarkable for manual dexterity. It is at this last-named point that the organ of Constructiveness lies.

But, as has been already stated, the mechanical faculty is not exclusively possessed by mankind, for many of the lower animals are capable of displaying much mechanical ingenuity. By philosophers this talent is denominated instinct in them, as if it were not merely an instinctive

attribute of the human mind as well. Is not this fact proved by the occasional exhibition of genius for mechanics in children, long before there has appeared any indication of the dawn of the purely reasoning faculties?

But though this single fundamental instinct is identical in man and animals, it is stationary in the latter, while in the former it is progressive in its effects. For his superior perceptive and reflective faculties enable man to invent new modes for the display of his mechanical instinct, which expand its sphere of action and augment its capabilities. The multiplicity of man's wants renders this capacity for mechanical improvement a necessary attribute of his nature, while the wants of animals are confined within bounds that are fixed and unchangeable, and the faculties, necessary to make provision for these wants, are at once made perfect by providential wisdom. There does not seem, therefore, any necessity for improvement in their mechanical instincts. Neither is there any advance in excellence discernible in the constructive faculty of animals. The bee constructs her cell now as she did in the days of Noah, and the beaver his hut and dam. But though animals possessing the mechanical instinct are totally incapable of varying its useful application in any way, still it is said that the nests of young birds are less compact and finished than those of old ones. This difference must arise from the repeated exercise of the constructive faculty: for, by an immutable law, exercise, up to a certain limit, enhances the power of a faculty, through the strengthening of its organ. Still, the nest is always built in the same manner. It is, however, recorded that animals have the power of adapting their mechanical faculties to meet unexpected emergencies. Gall, in his great work, states that a swallow

was in the habit of returning in due season, to a house in which it had built its nest. This nest was destroyed, in order to pass a bell wire across the hole. Nevertheless, the swallow, on its return, rebuilt the nest, leaving room, however, for the wire to play freely through it. But yet it admits of a doubt as to this fact being evidence of prevision, since it is almost certain that the wire was often in motion during the building of the nest, and thus would adhesion be prevented. Can this fact, then, be attributed to provident intention on the part of the bird? Such does not seem to be the case. Neither is the fact of a bird stopping up a hole in his nest, caused by accident, any proof of forethought. He finds himself in a situation which is not in accordance with what his instincts require, and what he is accustomed to, and he is, necessarily, prompted by his instinct to bring things back to the condition that is alone suitable to it.

In the conduct of the spider there is afforded evidence of the correctness of the inference just drawn, with respect to the supposed prevision of birds. For instance, a spider will start from his hiding-place and grasp any object that may happen to strike against his widespread web. If it be any living thing, he will at once begin to envelope it with a white tenacious substance, which he then secretes in great profusion; and having completely enfolded it, he leaves it in store for his future wants. But let the object be a small pellet of paper, thrown purposely on the curious network, and different will be his action. As usual he rushes furiously upon the object; but finding it not suited to his wants, he works with the utmost vigour until the pellet is extricated and falls to the ground. But he makes no attempt to envelope it. Such instinctive discernment as this is the result of appetite, unusually

and disagreeably affected; so far as to produce a sense of instinctive repulsiveness; and is not the result of provident reflection; for this spider did not then try to repair the breach thus made in the ingenious outworks of his secret dwelling, by which act his prey might be rendered more secure.

Why is it, then, that this insect was thus neglectful as to the repairing of his web, while the bird cannot rest until she closes the hole that has been accidentally made in her nest? It is because the instinctive sensations of the spider are in no way affected by such a contingency; since it is remote from her habitual resting-place. But with the bird it is different; for here the contiguousness of the mischief renders the creature keenly sensible that all around her is in an unnatural state, and divested of the completeness which alone can be satisfactory to her limited, but yet perfect instincts.

Indeed the constant uniformity of their mode of acting in emergencies shows that, even in the most sagacious species of the lower animals, there is an absence of those faculties which impart the power to devise new methods of adapting means to an end, so as to overcome difficulties, owing to their want of that reflective faculty which enables mankind to trace the chain of reciprocal dependence that must exist between cause and effect.

An interesting example of this truth was given to me many years ago by a most benevolent gentleman—a colonel in the British army. This officer, on his leaving Demerara, where he had been stationed for some time, brought home with him one of that beautiful species of the monkey tribe, called the “Marmosette,” which became a great pet of his, and was free to wander about the sitting-room of the colonel as it pleased. This he did

for a considerable time without meeting with any accident. One day, however, on returning home, his kind-hearted owner had the mortification to find the little creature in a state of agonising terror, with his hand immersed in a bottle of ink, out of which he was vainly striving to pull it. And as the master himself failed to draw it out, he broke the bottle, and then found that the Marmosette's fist was firmly clenched, and was thus rendered too big to pass through the neck of the bottle. It thus appears that this animal, being devoid of the reflective faculty, was not capable of seeing that by straightening the fingers he could have drawn out his hand from the bottle of ink with as much ease as he had put it into it. He was entirely wanting in the faculty of Causation, an attribute which mankind alone of all created beings is found to possess, and therefore could not see the means of fitness and adaptation, in regard to things that lay outside the sphere of its own perfect but limited instincts.

It is quite clear that there is a mental instinctive faculty, called Constructiveness, which is one *sui generis*, and is not a mode of action of any other faculty or combination of faculties, though it requires the co-operation of many. And that, moreover, its own inherent strength is at once, and without previous instruction, sufficient for the purpose of enabling animals to build suitable habitations for the security of themselves and their young ones.

It is scarcely to be hoped for that we shall ever be capable of isolating each particular organ in the small skulls of animals. Nevertheless it is a well-proved fact that the seats of several distinct organs, characteristic of their dispositions, can be palpably demonstrated, both

negatively and positively. For instance, the vast protuberance of Secretiveness and Destructiveness in the tiger and all the feline tribe, and their flatness and even depression in the sheep and all other herbivorous animals. The largeness of the organ of Caution in the sheep and its smallness in the fearless bull-dog. The great saliency of the organ of Tune in singing birds and its smallness in those that do not sing. The marked prominence of that portion of the skull which is analogous in its locality to the organ of Benevolence in mankind, in the sheep and all animals of a gentle nature, and its palpable smallness in those that are noted for their inherent ferocity, are demonstrable facts that defy contradiction. Yet this is the region of the head which some opponents have mistaken for Veneration. The amount of sagacity and intelligence possessed by different animals can be unerringly shewn to depend upon the broadness and elevation of the skull just behind the eyes. In the skull of the beaver this anterior part of the head is very broad, and even projects at the point which corresponds by its position, exactly with the organ of Constructiveness in the human head.

In birds, too, however much they may differ in regard to the relative development of the organ of Tune, the portion of skull that lies behind that organ is full and prominent. And it is there, according to analogy, one would expect to find the organ of the Mechanical Instinct.

In the bee and the spider the diminutiveness of the brain precludes us from even an attempt to divide it into distinct organs at all; much less to point out the locality of the special organ of Constructiveness. But such a discovery, though desirable, is by no means essential to

our purpose, since it is found to be an invariable fact that great mechanical genius has never yet been manifested by any human being without largeness of that part of the head, which has been denominated the organ of Constructiveness, or the Mechanical Instinct; and, on the contrary, that a scanty development of it is always accompanied by marked inaptitude for the display of manual dexterity or any talent for mechanics. And this is a fact solemnly attested and proved by men of high scientific attainments, perspicacious sagacity, observant industry, and scrupulous uprightness of purpose.

The organ of Constructiveness lies in front of Acquisitiveness, behind Tune, above Number, and under Ideality, and it is in contact with all of them.

SELF - ESTEEM.

A HIGH opinion of oneself, pride, arrogance, and disdain, are modifications of this faculty, which characterise an individual in proportion to the absolute, and more so to the relative paramount size of the part of the brain which lies in the upper and back portion of the head, above the organ of Inhabitiveness, and behind that of Firmness.

There is no sentiment which more strikingly manifests itself than this, and often in a very disagreeable manner. That it is an elementary feeling is beyond all doubt. It bears no just proportion to the superior merits of any individual, for the most noble-minded are often found to be scarcely affected by it, while men of mean endowments will sometimes draw down ridicule upon themselves by setting a high value upon their own slender acquirements and meagre productions. Neither is it the result of superior station in life. Sometimes it is far more apparent in the beggar than in the prince, in the heartless spendthrift than in the man whose sense of independence and industry enable him to amass property, from which he can spare a part to comfort the afflicted and promote happiness. Some children of the same family are very proud, and will not be induced to make acquaintance with persons in a lower sphere than themselves, while their brothers and sisters evince no such repugnance.

The daring arrogance and unhallowed thirst of power of King Richard the Third and the unassuming pliancy of Henry the Sixth were signal indications of the almost utter absence of Self-esteem in Henry, and of its exuberant predominance in the character of Richard. Compare the overbearing assumption of Luther with the gentle forbearance of Melancthon; the coarse, self-reliant turbulence of John Knox with the saint-like submissiveness of Fenelon, and then can there be a doubt as to the fact that Self-esteem is a fundamental power of the mind.

It is a sentiment which the lower animals do not seem to possess; although the cock, race-horse, and peacock are said to be proud. But Gall, in looking for the organ of Pride in these animals, did not find any remarkable development of the cerebral parts, corresponding to the organ of Pride in man.

This sentiment, when it is strong, and well chastened by the salutary restraints of the moral and religious sentiments, is a most valuable ingredient of character. It then imparts a sense of personal dignity, and is the direct opponent of pusillanimity. It inspires its possessor with confidence in the propriety of his own plans, opinions, and resolutions. When the organ is relatively salient, it causes one to take great pride in whatever belongs to him. Such a man sets a higher value upon his acquirements and possessions than others would be disposed to allow. Hence he will shew much anxiety for their security. Thus does it become a powerful incentive to the energetic action of the faculties, which alone are capable of defending the things we most highly prize. It rouses courage to ward off danger from the objects of our dearest social attachments, and enhances the zest for the acquisition and safe maintenance of property. It

is essentially selfish, however, and, when in excess, gives rise to arrogance and disdainfulness of disposition, and renders man impracticable, self-willed, and domineering.

Though the sentiments of Benevolence and Respectfulness are directly opposed to self-love, in regard to their intrinsic qualities, yet they are indebted to it sometimes for much of their activity. But for an ample endowment of this faculty St. Paul could not have fulfilled his holy mission with so much impressiveness, or conducted it with so much self-reliance in the midst of crosses and dangers. It was the prevalence of this sentiment which caused Julius Cæsar, on his way to Spain, to say to one of his officers, who contrasted the wretched appearance of a village hard by with the magnificence of Rome, "I would rather be the first man in that village than the second in Rome." Though Washington was certainly endowed with a competent share of Self-esteem he did not permit it to govern his actions, except when he was seeking to establish the independence of his country. He was always unalterably self-reliant and fixed in his resolutions, because his clear intellect and noble dispositions showed him the best mode of acting, and not because he was contemptuously self-willed and over-bearing. In this case it added dignity to the character of that great man.

But though this primitive faculty is, in persons happily constituted, a powerful incentive to noble actions, it is, also, found to add intensity to the cravings of some of the lowest and most degrading of our propensities. A thief, for instance, with very active Self-esteem will be unwilling to share the proceeds of his robberies with an accomplice; as was exemplified in Puckle, whose case is elsewhere noticed. Sometimes inordinate Self-esteem is

met with in persons in the lowest rank of life. And then, when it is accompanied by a marked deficiency of the moral sense, and no disposition to steal, it prompts its possessor to signalise his name by some wonderful achievement. It was the prompting of predominant Self-esteem which rendered Fieschi envious of everything higher or happier than himself, and caused him to construct his infernal machine for the murder of King Louis Philippe. It was the morbid prevalence of Self-esteem which urged Oxford to shoot at his youthful, pure-minded, and liberty-loving queen. In him the faculty was biased by a gloomy disposition, which in the absence of moral elevation, was misdirected by the vague imaginings of a confused intellect. And these are characteristics that are quite in accordance with the shape of his head.

In both these men the organ of Self-esteem is extremely large. In Oxford its activity was probably somewhat morbid, for, some time after this culprit's confinement in Bethlehem Hospital, Mr. Thomas, the house surgeon, told me that he could not discover any marks of insanity about him, unless it proceeded from pride; for it was obvious he looked down upon every one about him. The saliency of the same part is very conspicuous in Cooper, the young highwayman of Hornsey, who shot a man that attempted to capture him, and, when closely pressed by his pursuers, took poison, but without the desired effect. It is large in the daring, self-reliant murderer, Rush. On the contrary, it is comparatively deficient in those criminals whose self-reliance had completely deserted them upon their being apprehended. In Corder, for instance, who murdered Maria Martin at the Red Barn.

The supreme influence of Self-esteem is often manifested in insanity. There was in Deville's collection of

casts of insane persons the head of a man, who thought he was the divinely inspired representative of Christ upon earth, and he would become greatly excited by any doubt being expressed as to the reality of his divine nature. In addition to large organs of the religious sentiments, he had immense Self-esteem and love of approbation. Another was a French woman, who called herself the betrothed of Christ. In her cast, also, the organ of Self-esteem is very large, as well as those of the religious sentiments. In a third, this organ is very prominent. Her hallucination consisted in the idea that she was betrothed to the Emperor Napoleon the First.

When the late Dr. Ewins was visiting physician to the lunatic asylum at Peckham, held by Mr. Armstrong, he invited me to accompany him and the late Mr. Behnes Burlowe, the sculptor, in order to see how far peculiar kinds of insanity could be predicated from the form of the head. Amongst a large number of very marked cases, in confirmation of the truth of Phrenology, there were three remarkable instances of morbid pride in females. On approaching the first of these, I said to the doctor, "That woman is insane through vanity and pride. It is likely she thinks herself a queen, but from her large organ of Benevolence she will be somewhat bland and considerate, though not deferential in her manner, her organ of Veneration being small." This poor creature imagined she was Queen Elizabeth. She asked Dr. Ewins, in an unpretending tone and manner, why he had not brought the robes she had ordered. The next was a more decided case of pure Self-esteem. I pointed out a tall woman, in whose head this organ was even larger than in the first; but seeing that she had not so much love of praise and less benevolence, I said I had no hope

of being treated with much condescension by this patient, who, no doubt, supposed that she was some very high personage. She was the Queen of Portugal. When we approached her she drew her head upwards and backwards, and, by the haughty expression of her face, seemed to hold us in the utmost contempt. Nor did she deign to speak a word to any one. The next was a large, fine-looking woman of sixty. In her head, Self-esteem was not very marked, but Love of Approbation was very large, and so was Veneration, Benevolence, and Conscientiousness. I said the doctor should be respectful to her, but that he might rely upon being treated with respect in return, and accordingly, on his asking how her highness was, she said, "Very well, I thank your excellency." The poor lunatic, whose case is noticed in the article on Benevolence, as having so humble an opinion of his own merits, possessed a very small organ of Self-esteem.

It is of great importance to acquire an early knowledge of the absolute and relative size of the organ of Self-love; for its predominance in the heads of children tends to render them unmanageable, unless the rest of the brain be happily constituted. A child, for instance, with weak attachment and little care for the opinion of others, who possesses much firmness and courage, with large Self-esteem (especially if Benevolence and the sense of Respectfulness be only moderately bestowed upon it), will give great trouble and anxiety to its parents and guardians. Such children are instinctively self-willed and unruly. And, if to this combination of attributes is added a large development of the organ of Secretiveness, they will have to contend against dissimulation. And, as the last quality greatly enhances the danger,

surely the system of cerebral physiology, which points out an unerring mode of discovering the presence of that quality in the mental constitution of the child, before it has displayed itself in conduct, must be looked upon as a boon of the highest value to mankind.

To curb, in proper time, the undue influence of Self-esteem, nothing affords a greater prospect of success than the strengthening of attachment by judiciously conciliating it; for the sense of Attachment, when strong, naturally becomes a hopeful channel through which the moral feelings may take their benignant course. The Love of Approbation is another essential instrument, when properly used, for enabling an instructor to urge the enhancement of the energies of the moral and intellectual powers with the view of controlling inordinate self-love.

When the lowest propensities are predominant, the presence of a large organ of Self-esteem and little sense of Attachment greatly augments the evil. Such was the case with Lacinaire, Fieschi, Oxford, and the Frenchman, Martine, who killed his generous and indulgent mother to obtain money which he fancied she had concealed; and in Dautun, who killed his own brother to obtain his property; and in the French chevalier who poisoned three of his wives for a like purpose. And it is very salient in Berthelemy who was hanged for shooting Mr. Moore. There cannot be a doubt that Self-esteem is a primitive attribute of the human mind, which is separate in its nature from any other faculty. And, such being the case, it follows necessarily that there must be a special portion of the brain for its manifestation. This part of the brain was clearly pointed out by the indefatigable and accurate Dr. Gall. He discovered it in the head of a beggar, who acknowledged to him that he had lost a fortune left to

him by his father, who was a merchant, because he felt too proud to work, and that he had rather beg than work for his livelihood. He had, however, a small head and forehead. Hence it may be inferred that his proud dislike to work was fostered by intellectual indolence.

In the centre of the upper and back part of this poorly-developed head, Gall found a large rounded protuberance. Having taken a cast of the head he was enabled to compare it with the heads of persons whom he knew to be very proud, and, to his surprise, he found the same kind of prominence in all of them ; although the greatest difference as to form existed in every other part of their heads.

Subsequent investigations have afforded incontrovertible evidence of the correctness of the position assigned to the organ of Self-esteem by Gall.

To the cases already adduced may be added the following, which are particularly interesting and instructive.

In the cast of the author of "Political Justice" and Caleb Williams the organ of Self-esteem is remarkably prominent, with large Benevolence and small Veneration. In Sir Walter Scott it is very moderate, with large Benevolence and very large Veneration. And do we not find the works of Godwin deeply impressed with the marks of a strong sense of Self-esteem, mellowed by superior Benevolence? (see Plate 1, diagrams 1 & 2.) It was this that inspired him with confidence in the wisdom of his own political views, and added vigour to his eloquent advocacy of them. Godwin was possessed by a strong spirit of innovation, Scott longed for the continuance of ancient institutions, and was, of all great men, the least self-opinionated.

In the cast of Rammohun Roy, who relinquished the Brahminical faith, Self-esteem is large, and, like

Godwin, his Benevolence is very large and his organ of Veneration small. In the cast of Cobbett, Self-esteem is a marked feature, combined with large Combativeness. In the cast of the head of Richard Carlile, the bookseller of Fleet Street, Self-esteem is exceedingly large, and, together with excessive firmness and little respectfulness, it affords a clear and simple criterion whereby his character and conduct can be estimated. So high an opinion had this man of himself that he gave an account of his own head in a magazine of his called "The Lion," and finished it by saying he considered it came as near to perfection as possible. And so self-willed and obstinate was he that he endured imprisonment, at one time, for six years and a-half, and again, for nearly four years, sooner than retract a word of the abusive language which he was in the constant habit of contemptuously uttering, and fearlessly publishing, against objects and institutions which all but a few, like himself, deemed sacred. The government at last got tired of keeping him in prison, and without any concession on his part released him. His head offers a striking contrast to that of Lord Chancellor Eldon, and to that of Sir Walter Scott (see Plates 1 & 3).

Amongst the interesting remains of the sculptures of Greece and Rome are to be found striking instances of the fact, that a large development of the upper back part of the head is always a symbol of love of distinction, or selfish pride, and love of power—modified according to the prevalence of the organ of Self-esteem, or that of Love of Approbation. The former organ is very prominent in Cato, the censor, in Antisthenes, the founder of the Cynic philosophy, and in Zeno, the stoic. It is of very moderate size in the liberal, unselfish, dramatic poet,

Menander, and in the gentle, unassuming poet, Theocritus. In the busts of Cæsar, Pompey, and Cicero, this region of the head affords a striking contrast to the same part in Horace. And has not this delightful poet left an imperishable memorial of the little value he was disposed to set upon the possession of power and the privilege of using authority over others, in the ode beginning with the words—" *Hoc erat in votis.*"

The seat and external appearance of the organ of Self-esteem are thoroughly established facts.

LOVE OF APPROBATION—VANITY, LOVE OF GLORY, AMBITION.

EXCLUSIVE of the wholesome influence exercised by the moral and religious sentiments in regulating the impulses of Self-esteem, there exists a primitive faculty which tends greatly to soften the asperities of temper arising from uncontrolled submission to the promptings of that affection. It is called Love of Approbation. These two qualities exert a reciprocal beneficial influence upon one another. The sense of personal dignity, for instance, would necessarily prevent that undue servility in seeking to obtain applause, which would be the result of inordinate love of distinction, unaccompanied by an adequate share of the other faculty.

Love of Approbation is certainly one of the most powerful promoters of the activity of the other mental faculties, and, when acting in harmony with high moral sentiments, it enhances, in an eminent degree, the benignant grace and unassuming elegance of manners so characteristic of high moral endowments. The pleasure we feel on finding that others applaud our conduct renders us somewhat dependent upon each other, and hence this faculty becomes an active promoter of mutual forbearance and goodwill, qualities that are so necessary to the happiness of society. It gives rise to that salutary sense of shame

which so powerfully tends to awaken a sense of justice in those whose rectitude of principle may not be of a high cast, and thus becomes an incentive to honesty. It urges the manufacturer to fabricate goods of the most exquisite workmanship in order to outstrip his competitors in the race of improvement. The farmer is dissatisfied unless he can raise from the soil, which he cultivates, better grain than others, similarly circumstanced, are enabled to produce. What an endless variety of beautiful flowers and delicious fruits do we not, every season, behold adorning the gardens of skilful horticulturists ambitious of distinction. And, urged on by emulation, what vast improvement is affected by graziers in the form and quality of cattle and of sheep. To gratify his thirst for glory the warrior forsakes the dear objects of his love to brave the perils of land and sea, and the voice of fame is music to the soul of the orator and the poet. Being the source of rivalry, it prompts the mechanical genius to exert his talents in the invention of something which his predecessors were unable to accomplish, and thus it has become a powerful promoter of the happiness and good fellowship of nations.

Like every other primitive faculty, this one is possessed in different proportions by different individuals. In the female head the organ of Love of Approbation is relatively larger than it is in the male head. And it is true that it exercises much greater influence over the actions of women than of men. In the whole conduct of young girls it shows its predominance. Boys are usually far less affected by either praise or blame. To its prevalence in the female character are owing misfortunes to which some of the tenderest and most confiding natures have been subjected; for, ardent love of praise requires some power-

ful moral and intellectual auxiliaries to enable it to resist the assaults of flattery. Under proper management this affection may be used as a most efficient incentive in exciting the energies of the moral and intellectual powers in the early periods of life. It is, therefore, of importance to teachers to ascertain at once the relative strength of this affection in the mental constitution of every child submitted to their care.

Children in whom this feeling is very active are extremely sensitive, and should they be, at the same time, somewhat timid, great care should be taken not to wound their self-respect by bringing them to open shame, or treat them with undue harshness. In such cases self-reliance should be cultivated, and love of praise judiciously appealed to. Some, on the contrary, care very little for what others may think of them, provided they can but gain their ends. Such young persons are managed with difficulty, especially if they be endowed with firmness and courage, and the ungrateful task is much enhanced by a deficiency of attachment in the pupil. In the former case a prominence is certain to be found at the superior posterior part of the head, on each side of Self-esteem. In the latter, the absence of any marked projection in the same part cannot fail to be observed.

Although the love of applause is a powerful incentive to the carrying out of noble aspirations in persons who are endowed with happily-constituted minds, it is, when abused, the fertile source of some of the most deplorable evils with which society has been afflicted. It is then called vanity, ambition, or inordinate love of distinction.

The individual who happens to be the victim of this passion is a stranger to a true sense of mutual liberty.

He cannot countenance a rival. Should another outstrip him in the pursuit of fame his soul becomes the seat of envy, that most uncharitable of vices. He pines for that which he has not the capacity to accomplish—the unhappy slave of desires, which are for ever flitting before his troubled imagination, but yet are as constantly eluding all his efforts to obtain their fulfilment.

The modes of artificial society acquire a mastery over the mind of another who wastes his fortune in competing in extravagance with those who are more bountifully supplied with riches; and false shame, the offspring of this impulse, when abused, prompts him still to continue in his career of folly, until at length he becomes overwhelmed by debt, and subjected to the mercy of some hard-hearted creditor, whom in the days of his prosperity he would not deign to recognise. Oh, to what a depth of misery doth man sometimes reduce himself, and for what? To gratify a pitiful craving for distinction! And thus blindly does he forego the happiness which the cultivation of nobler sentiments would with little risk secure, for the gratification of a single impulse, and that not one of the highest order.

But it is not individuals and private families only that have suffered from the insatiable longings of this instinct. The majority of the civilised world have often been made the unsuspecting instruments for effecting the completion of the deeply-laid schemes of some ambitious aspirant for power. Nor can one be surprised at their infatuation, for those men of mighty intellect, who have been the slaves of this master-passion, have seldom failed in convincing others of the purity of their intentions. Some, by dissimulation, practice on the credulity of the well-disposed; others obtain the co-

operation of their countrymen through a series of patriotic achievements, to the performance of which they might have been prompted, in the first instance, by true disinterestedness. But, unfortunately, the master-passion which had fanned into an active, energetic, wide-spreading flame the latent sparks of generosity and nobleness of sentiment has, often by imperceptible degrees, become the instigator of oppression, converting him who, in the commencement of his career, appeared to labour for the general welfare, into the despotic denouncer of all those who might differ with him in opinion. Lucius Cornelius Sylla, the dictator, affords a notable illustration of such change of conduct. Never, it was said, was a man more moderate before a victory or more cruel after it. Rare, indeed, are the instances of great men passing unscathed through the furnace of political temptation, and of the few, who have asserted by their patriotic conduct the supremacy of the moral sentiments, the Greeks can boast of Phocion, Epaminondas, and Aristides, while Fabricius, Cincinnatus, and Junius Brutus are illustrious examples among the Romans. And, in more modern times, when the power of the empire had fallen into the "sere and yellow leaf," arose Stilicho and Belisarius, brilliant luminaries, created as it were for the purpose of retarding for a season the dark night of sorrow and tribulation which was hastening to enshroud the political horizon. But one of the noblest instances of disinterested patriotism that has appeared upon earth was manifested in the person of George Washington, who, after fighting successfully for the independence of his native land, was hailed by the unanimous voice of his countrymen as the only man capable of conducting to a happy issue the affairs of their newly-

established constitution. In the performance of this sacred duty he proved how eminently he was endowed with a perfect and harmonious union of all the highest powers that adorn human nature, and of those energetic affections which assist the will and the intellect in the performance of those virtuous actions that have rendered him the ornament of his species.

Let us now turn our attention from this cheering picture of the benign influence of the faculty of Love of Approbation upon the well-being of society, when it is under the control of the moral sentiments, to contemplate its disastrous effects upon individuals and communities whenever it has become the mainspring in the political movements of those whose fortune it was to become the chief directors of public affairs.

It was love of distinction prompted the great Caius Marius, a man of obscure parentage and no education, to aspire to the highest honours of the most renowned republic that the world has ever seen. He began by espousing the cause of his own class, the plebeian; and, after distinguishing himself as a soldier at Numantia, he was appointed to be lieutenant to Metellus, the consul, who was then carrying on the war against Jugurtha. Prompted by unscrupulous ambition he found means of superceding his patron and commander, obtained the consulship, and conquered Jugurtha, whom he conducted in chains to Rome. These successes, and his great popularity, obtained for him the highest consideration, and, when the State was threatened with destruction by the Cimbri and Teutones, the eyes of all parties were directed towards him, as the only one capable of averting the impending catastrophe. And nobly had he fulfilled the duty entrusted to him, had he not tarnished his

victory by his cruelty towards the vanquished. The most distinguished honours now awaited him, but his selfish ambition could not brook the appearance of a rival. And when the rising fame of the brilliant Sylla rendered it probable that a formidable one had already made his appearance, Marius used every means to thwart the measures and curb the rapidity of the career of that equally ambitious and unprincipled man. Hence proceeded those desolating civil wars which deluged the streets of Rome with the blood of some of her noblest sons, and ultimately terminated in the cruel and devastating dictatorship of Sylla. To these succeeded Pompey and Julius Cæsar, men who possessed all the ambition of their predecessors, with more merciful dispositions. Their humanity, nevertheless, offered but an insufficient barrier to the progress of their ambition, until at length the pillars of the commonwealth were torn from their foundations. To satisfy their selfish ambition, Octavius and Mark Antony consented each to sacrifice his own friends to the vindictive fury of the other. The great orator, Cicero, was the victim of this wicked compact.

It would be tedious to multiply examples of the disastrous consequences of selfish, ill-regulated love of distinction. The history of every nation abounds with them. Look at the incessant wars carried on, at vast national expense, by our Edwards and our Henrys for the sovereignty of the fairest portion of France. Survey, for a while, the pages that record the devastating civil wars, which for a long time distracted England, when the Houses of York and Lancaster contended for supremacy—the barbarities perpetrated by the army of Cromwell in Ireland upon the towns which held out in the cause of

Charles ; and who can forget the direful atrocities of the French Revolution ?

The ambition to rule over others is seldom accompanied by true sympathy, but yet the relative weakness of this social affection has, fortunately, been sometimes the cause of benefits accruing to communities, seldom anticipated by the men whose selfish ambition gave rise to them. To illustrate this point it may not be deemed wanting in moral interest to add the following case.

Simon de Montfort, the celebrated Earl of Leicester, in the reign of Henry the Third, was endowed with great intellect, a bold and lofty spirit, and boundless ambition. After serving his king on several occasions, both in a civil and military capacity, this remarkable man appeared in Parliament at the head of the discontented barons, and demanded that the administration of affairs should be entrusted to twenty-four of their number, who should be empowered to redress grievances and reform the State. This was conceded, but hostilities subsequently commenced between the royal party and the barons, which ended in the overthrow of the former at the battle of Lewes.

Having thus succeeded in curtailing the prerogative of the crown, Leicester could not brook the opposition of some of his old associates, the barons, who were by no means disposed to acquiesce in all the measures proposed by him for their adoption. His love of distinction being thus thwarted, he resolved upon executing a project which it is probable he had long contemplated, and which could not fail to gain for him a high degree of popularity, and would, at the same time, afford him more ample means than he had as yet possessed, of establishing and maintaining his authority.

The changes that were just then manifesting themselves

on the face of society were highly favourable to his views, for the inhabitants of the counties, cities, and boroughs, who had by their industry amassed considerable wealth were, at that time, becoming a class of considerable importance in the State. Leicester, profiting by the influence which property never fails to bestow, summoned to Parliament, in the year 1265, knights of the shires and burgesses, and thus did he become the founder of the British House of Commons. How gratifying to see the dormant seeds of general liberty springing forth into active existence even at the instigation of individual ambition, and subsequently budding into ripeness under an atmosphere of despotism.

Of course it is not to be supposed that the cases which have just been narrated, resulted from the vigour and activity of Love of Approbation alone. It is merely the prime instigator of those other powers which minister to its appetite, and the kind of nutriment which it relishes the most will entirely depend upon the peculiar taste of the agent over which it exercises its influence. Its distinctive function is the desire of holding a high position in the opinion of others. It was the ruling passion in the mind of the great Cicero, and the oracle was fully justified in warning him against being too much influenced by the "affects of the many." In all the busts said to be of him, the part of the head where this organ is located is remarkably salient.

There is scarcely a passion of the human mind more likely to become the seat of derangement than this. What can be more dangerous for a man than to allow vanity to usurp the highest place in the assemblage of the mental powers? It strains the energies of the other faculties to minister to its insatiable appetite. And, should any

unforeseen calamity arise to blast the hopes he had fondly cherished, he becomes, perhaps, the victim of despondency. His love of distinction feels wounded by the desertion of those whom he caressed in the days of his prosperity. He is stung to the quick by the superciliousness of others who were once his inferiors. His reflections are constantly rivetted upon his own harassed feelings. He finds himself alone in the wide world, and at last experiences consolatory joy in imagining himself to be some emperor or king upon whose nod depends the destinies of nations.

In treating of Self-esteem I have given some cases to show the effect of disease upon that organ. But it is obvious that the organ of Love of Approbation was also in a state of disease, in two of them at least. And it is worthy of remark that the greater the relative size of an organ the more danger there is of its falling into a morbid condition. A case just occurs to me of wounded Love of Approbation in a gentleman, which was followed by marked exhibitions of morbid sensitiveness, that warped his judgment as to the conduct of his truest friends, and soured his temper, so as to blind him to the real nature of the case which disturbed him. He was possessed of some very good dispositions, but his Self-esteem was excessive. He died many years after that show of morbid sensitiveness, and his brain was examined by an eminent anatomist. A lesion was therein discovered which embraced the organ of Love of Approbation on one side, and seemed to trench a little upon Self-esteem. The organ of Love of Approbation is very large in the cast of Bellingham who shot Mr. Spencer Percival in the lobby of the House Commons. His irritation was caused by the deep wounds inflicted upon his excessive vanity

by the neglect with which his repeated appeals to the governmental authorities were treated. And this chagrin was augmented by a marked love of property (see Plate 4). In the head of the poet, Pope, this organ was very large, and certainly his sensitiveness with respect to censure was scarcely ever surpassed. And this being associated with large Combativeness and rather large Self-esteem he gave vent to his resentment in that matchless satire the "Dunciad." The organ was excessively large in Rubiliac's noble bust of Lord Chesterfield, the friend of Pope and Bolingbroke; and the world knows how punctilious he was in "sacrificing to the graces."

The moderate development of the same region of the head in Wyat's bust of George the Third corresponds exactly with the perfect absence of personal vanity in the character of that homely monarch. In the skull of Swift the organ was large. But yet in that singular man it was subordinate to Self-esteem. While in the skull of Robert Burns that of Love of Approbation was dominant. In the skulls of Robert Bruce, and the good Duke Humphrey, of Gloucester, the organ of Self-esteem was in the ascendant, though in Humphrey it was guided by nobler moral sentiments. While in the skull of the unfortunate Edward the Second, Love of Approbation vastly predominated.

Compare the fine expressive bust of the ambitious, vain-glorious Sylla, with the most characteristic one of the younger Cato, whose disposition was of so opposite a character with respect to censure or applause, and the organ we are considering will be found to be excessively large in the former, and very moderately developed in the latter. The contrast between the bust of Cato and that of Cicero is also very characteristic. This part of

the head is very prominent in the bust of that merciless tyrant, Nero. And is it not recorded that on one occasion he ordered the death of a poet whose verses were deemed superior to some he had himself read at a public competition? Being entirely destitute of nobleness of nature, his inordinate vanity, which was the result of a dominant organ of the Love of Approbation, became the overruling jealous instigator of wanton cruelties.

The existence of the organ of Love of Approbation and its seat in the brain are facts, established by a vast amount of positive and negative unvarying evidence.

CAUTIOUSNESS.

CAUTIOUSNESS is one of the most influential and useful of the mental faculties. It is it that causes the instinctive dread of danger; and thus does it excite, by its timely warnings, other faculties to provide means of defence against threatening emergencies. Its excessive activity in some animals, and the almost total absence of it in others, are proofs of its being a distinctive faculty of the mind, which providential wisdom has bestowed in abundance upon the weak and defenceless; while its active presence was deemed not only unnecessary but prejudicial to the well-being of those fierce and powerful beasts of prey that cannot obtain the bare necessities of life, without imminent risk of being themselves destroyed. That caution is not the result of comprehensive intellectual powers is placed beyond doubt by the fact of its being a leading characteristic of a great majority of the lower animals, and even in them its prevalence bears no proportion to their sagacity. Is not the sagacious shepherd's dog, for instance, less influenced by caution than the dull, indocile sheep?

Since man possesses all the faculties which are enjoyed by animals collectively, it must be admitted that caution is an instinctive affection in him also, for, certainly it is not the product either of superior intellect or expe-

rience, although experience heightens its usefulness. The capacious understanding of Julius Cæsar, and his vast experience in situations of the greatest danger failed to imbue his mind with an adequate amount of instinctive cautiousness on all occasions. Otherwise he would not consent to be led by false and ungrateful men to his destruction after the variety of warnings he had received ; while, on the contrary, the great mind of the virtuous but timid Cicero was harassed by cautious misgivings, even before he could have profited by the lessons of experience.

Cautiousness exercises a marked influence over the conduct and manners of mankind. In its comparative weakness, the most clear and foreseeing intellect may be led into mistakes fatal to happiness. But when it is a prominent feature of the mind, there will never be wanting an incentive to intellectual circumspection. It is an essential ingredient of a prudent mind. Even Cæsar, whose fearlessness in danger was so conspicuous, wanted not that amount of cautious foresight which enabled him to promote his statesmanlike-plans, so as always to bring them to a fortunate conclusion.

But when Cautiousness is disproportionately active, irresolution and hesitation follows. An individual, swayed by this affection, finds it hard to come to a decision upon any subject. Should he pass triumphantly, and with ease, through a difficult undertaking, he will, nevertheless, be apprehensive of not succeeding on every subsequent attempt of the same nature. Such was the case with Cicero. According to Plutarch he always trembled when he commenced any important speech. And in the presence of danger he could scarcely speak at all, as happened on the trial of his brave friend Milo. But,

there were times when he nobly overcame the depressing influence of his predominant caution.

At an early age some children evince much caution in all their acts, while others are continually meeting with accidents. When the latter are running their heads into danger, the former are apt to cry, "take care." These are inclined to be timid and circumspect, the others are careless and rash. Now, it is of great value to a teacher to find out, at an early period, these peculiarities of disposition in their pupils. But at school, when children are for a few hours on their compulsory good manners, their characteristic tendencies are not readily learned by ordinary observation. And, as ignorance of the predominant features of character in a child at school may lead to a mode of treatment which would, most likely, be prejudicial to the present progress and future efficiency of his mental faculties, it behoves all men, who have the management of education at heart, to foster and encourage the study of the only science which affords unerring means of finding out at once the peculiar dispositions of children.

Suppose that a child who possesses a very large organ of Caution, with much Love of Approbation, Conscientiousness, and Benevolence, and little Self-esteem, Firmness, and Hope, is rendered the frequent object of censure and punishment on account of the slowness of his perceptive faculties, can there be a doubt that the mental comfort of such a child would be seriously interfered with, to the extent, perhaps, of laying the seeds of unsoundness of mind? Whereas an early knowledge of the same character, with a judicious and sympathising method of treatment, would probably render his schoolboy days full of happiness, and his future course creditable to his

instructors, and productive of honour and independence to himself.

A most conclusive proof that Cautiousness is a fundamental faculty of the mind is derived from a certain morbid condition of the brain. It has already been shown that the workings of the mind may, in all respects save one, be healthy, rational and collected, but that, whenever the injured cord is struck the intellect loses its balance, and a confused and erroneous estimate of everything is the result. Caution, like every other faculty, may become singly diseased, and its morbid manifestation is biased in accordance with the other predominant features of the character. For instance, one monomaniac imagines some one to be behind the head of his bed, ready to blow his brains out with a pistol. Another thinks he is going to be poisoned, and refuses to take sustenance. A third is constantly agitated by the thought of being pursued by some enemy whose whispers he hears, though he fails to see his person. Hence he supposes his tormentor to be a ventriloquist. A young lady, in whose cerebral constitution Caution formed a prominent feature, was relatively deficient in the organs of Self-esteem, Firmness, and Hope, whilst those of Conscientiousness, Benevolence, Marvellousness, and Veneration were all very prominent. She had also much Love of Approbation and a good intellect, in which the reflective faculties predominated. This high-minded young woman had exalted ideas of the paramount importance of fulfilling all Christian duties, but at so low a rate did she estimate her own qualities that she became terrified by the notion of her own unworthiness, and she sank for a time into a state of fear and despondency.

In Deville's collection of casts there was one of a

gentleman who was remarkable for his great Caution. It affected him to such a degree that, in making the most simple enquiry of a shopman, the hesitation and embarrassment of his manner was painfully evinced. In that cast, the part just over the organ of Secretiveness and in front of that of Love of Approbation, which is the seat of Cautiousness, was extremely prominent. Indeed, the width of the head at that part was the largest I have ever seen. In another cast this portion was exceedingly small. It was the cast of a young engineer who was killed in rashly attempting to catch the iron handle of a machine of his own invention while it was rotating rapidly. This part was moderate in the gentleman whom I have already mentioned as having been the brave captor of three highwaymen. In Hoppmer's portrait of Nelson the organ of Caution is only moderate. It bears a similar proportion to the rest of the head in Thorwaldsen's bust of Lord Exmouth. In Nollekens' bust of Lord Erskine the organ is moderate, in that of Lord Mansfield, by the same artist, it is much larger. The same part of the head is rather small in the busts of the late Duke of York, and in George the Third, one of them by Nollekens, the other by Wyatt. In Lord Grenville it is well-developed. It is moderate in Mr. Whitbread, at one time the virtual leader of the Whigs, and in Chantrey's fine bust of the brave Lord Castlereagh the organ is but moderately developed. In the print of the famous Sir Kinelm Digby the region of Caution is rather small. And, certainly he committed imprudent acts, notwithstanding the greatness of his talents and the great kindness of his disposition. The organ is large in the cast of Lord Chancellor Eldon, who was remarkable for his hesitation in deciding causes in Chancery, notwithstanding the

vastness of his legal abilities. In the unhappy Doctor Dodd the same portion of the head is extremely narrow, while it is broad in Doctor Gall, in whose head it is finely balanced with Combativeness, Firmness, and Conscientiousness. But in Dodd the first-named organ is large and the other two are small. And how strikingly accordant are the characters and cerebral organization of these remarkable men (see Plate 9). This organ is small in the large globular head of Richard Patch, the vile, ungrateful culprit who, with all his intense cunning, showed want of caution as to the time and mode of committing the foul deed for which he suffered death upon the gallows. In Courvoisier, the cautious murderer of his good master, the organ is very salient, but in Rush, the incautious assassin, the same region is singularly narrow, while Combativeness is inordinately protuberant. The organ of Caution is excessively small in the skull of Thomas Luscombe, who killed two young women at Exeter, and then cried the papers about the streets for the apprehension of the culprit, while he was wearing at the same time a coat which he had stolen a short time previously. Secretiveness, also, was small in this criminal.

The organ of Caution is strikingly characteristic of the skulls of the Gentoos and the ancient Chinese, and much less so of the New Zealanders and the North American Indians; though the absolute width of the head at that part is greater in the bold Maori and the fierce Indian, than in the peace-loving, industrious Chinaman, or the unwarlike and proverbially timid Hindoo. This fact shows how erroneous would be the practice of estimating special phases of character in accordance with the absolute size of any isolated organ. For the balance of

power in the whole head should never be lost sight of. The same region of the head is also very salient in the uncompressed skulls of the Incas of Peru, as well as in those of the Tahitians and Sandwich Islanders. And it is a prominent feature in the skulls of the Esquimeaux, though these are characteristically long and narrow. This last quality is a marked attribute of those of the Greenland coasts, as far west as Melville Bay. But this narrowness is not so observable in those from Kotzebue Sound, on the West, where they partake somewhat of the form of the Shaswoop and Chymmisyan Indians. The organ of Caution is thoroughly established.

BENEVOLENCE.

PERHAPS no affection of the mind has given rise to more erroneous opinions with regard to the source from which it springs than Benevolence. Some writers of eminence have supposed that acts of beneficence were the result of a proper intellectual estimate of the principle of social and political utility. Others, that they spring from selfish motives. The former of these were undoubtedly right in believing that communities would derive vast advantages from the exercise of mutual kindness.

But they were mistaken in imagining that a foreknowledge of those happy consequences was the primitive source of charity and goodwill amongst men. For it is not every political economist, who has applied the powers of a vigorous understanding to the inculcation of the advantages derivable by society in general from the adoption of such a course of action, that has been found to be the most unostentatious and generous comforter of individual affliction.

The hypothesis of those who suppose that Self-love is the centre whence all our motives to action originate, is inadequate to account for deeds which must be essentially the offspring of instinctive Benevolence. Undoubtedly, the man who spends his time and property in attending to the wants, and relieving the distress of the afflicted objects of sickness and of poverty, cannot

but experience that ennobling inward sense of satisfaction which must naturally accompany the consciousness of doing good. The delight experienced by the really benevolent and humane in the performance of acts of mercy and of charity is nature's rich reward. But is it a selfish craving for this inward feeling of satisfaction that prompts to acts of beneficence? No, there cannot be any two things more intrinsically opposed to one another than selfishness and benevolence. Selfishness and strict justice are incompatible. Mercy, which is a mode of action of benevolence is, on the contrary, an essential ingredient of justice. "Mercy," says Edmund Burke, "is not a thing opposed to justice. It is an essential part of it; as necessary in criminal cases as in civil affairs equity is to law." Selfishness whets the appetite of avarice. Benevolence is the source of charity. Selfishness, when opposed, is irritable and severe. "Charity is patient, is kind." Selfishness repines at the superior prosperity of a rival, is arrogant. "Charity envieth not, dealeth not perversely, is not puffed up." Selfishness seeketh worldly power and applause. "Charity is not ambitious, seeketh not her own." Selfishness judgeth harshly. "Charity thinketh no evil."

Benevolence is the noblest attribute of the human mind. The New Testament abounds with its praise. You have heard, says Christ, that it hath been said, Thou shalt love thy neighbour, and hate thy enemy. But I say to you, "Love your enemies. For if you love them that love you, what reward shall you have? Do not even the publicans this? And if you salute your brethren only, what do you more? Do not also the heathens this? Strong attachment causes us to love our brethren, even when it is combined with other feelings, which

are not of a high order. Do we not find individuals, who have combined for the purpose of gratifying some of the lowest passions, ready to run all hazards for the attainment of each other's safety, but whose career has been marked by a total disregard for the happiness of others and a bitter hatred of their enemies? The command, "Love thy neighbour as thyself," was specially addressed to the sentiment of Benevolence. And, again, Christ says to his disciples, "Keep my commandments." And this is my commandment, "That you love one another as I have loved you." St. Paul calls Charity, which is the offspring of Benevolence, the bond of perfectness. And he considers it the highest attribute of religion. "And now there remain," says he, "Faith, Hope, and Charity—these three—but the greatest of all is Charity."

Indeed, it is manifest that prayer and thanksgiving, which result from the activity of Faith, Hope, and Veneration, cannot, without Charity, of which Benevolence is the true and never-failing source, avail much towards the purification of the soul. "Not every one," says Christ, "that saith to me, Lord, Lord, shall enter into the kingdom of heaven, but he that doeth the will of my Father, who is in heaven, he shall enter into the kingdom of heaven." What, then, do we find to be most pleasing to his heavenly Father? What shall procure endless beatitude? To love God above all things and our neighbour as ourselves. The following text is a complete attestation of this. Then shall the king say to them that shall be on his right hand "Come, ye blessed of my Father, possess you the kingdom prepared for you from the foundation of the world. For I was hungry, and you gave me to eat; I was thirsty, and you

gave me to drink ; I was a stranger, and you took me in ; naked, and you covered me ; sick, and you visited me ; I was in prison, and you came to me." Then shall the just answer him, saying, " Lord, when did we see Thee hungry ? " And the king, answering, shall say to them, " Amen, I say to you as long as you did it to one of those little ones you did it to me."

Such is the prospect held out to those who faithfully practice the virtues which spring from this noble sentiment. How necessary it is, therefore, for those, who are entrusted with the care and education of children, assiduously to inculcate, not only by precept, but by example, the importance of rationally fulfilling its instinctive suggestions.

Compassion for the distressed, meekness in the exercise of authority, modesty during triumph, and patience in affliction, are emanations from this primitive sentiment ; and if mankind did but reflect somewhat more upon the happiness afforded by the practice of these virtues, how few should we find to be the harrassed victims of disappointed ambition, of hateful arrogance, or of the deplorable evils arising from the selfish indulgence of the animal propensities.

How inimitable is the following description of the effects of active Benevolence by the greatest of nature's bards—

" The quality of mercy is not strained,
It droppeth, as the gentle rain from heaven,
Upon the place beneath : it is twice blessed :
It blesseth him that gives and him that takes.
'Tis mightiest in the mightiest ; it becomes
The thronèd monarch better than his crown,
The attribute to awe and majesty,

Wherein doth sit the dread and fear of kings :
 But mercy is above the sceptered sway,
 It is enthronèd in the hearts of kings,
 It is an attribute to God himself ;
 And earthly power doth then show likest God's
 When mercy seasons justice."

Almsgiving is one of the modes of action of Benevolence, but that is not so certain a criterion of beneficence of disposition as unpretending meekness of manner ; since individuals, remarkable for haughtiness of temper, have often distinguished themselves by their liberality in contributing to public charities, sometimes from considerations of public utility, sometimes to gratify a thirst for applause. But the man who gives alms from the pure love of relieving distress, independently of any intellectual calculation of its advantages or of ambition to gain applause, cannot possibly be habitually arrogant or morose. Christ, in his sermon on the Mount, drew a well marked line of distinction between the alms deeds, which proceed from Love of Approbation, and those which arise from Benevolence. "Therefore, when thou dost an alms deed, sound not a trumpet before thee, as the hypocrites do in the synagogues and in the streets, that they may be honoured by men. Amen, I say to you, they have received their reward. But when thou dost alms, let not thy left hand know what thy right hand doth. That thy alms may be in secret, and thy Father who seeth in secret will repay thee."

Indeed, the satisfaction felt by the really benevolent in doing acts of charity, no change of circumstances can deprive them of ; but that which is the product of ostentatious almsgiving may be embittered by various casualties. "A single whiff" of the incense of flattery withheld from

those who are prompted by love of praise or distinction alone to acts of charity, is sufficient to bereave them of much of the delight that should accompany the relief of distress, and to cause them to slacken their progress in the paths of beneficence, whilst true instinctive benevolence requires no extraneous motives to stimulate it, for it contains within itself a salient spring of generous action.

The influence of love of approbation, however, in prompting to acts of charity, should not be depreciated, for it is a powerful incentive to active munificence. But, although alms-deeds proceed from a variety of motives, yet it is manifest that there is but one genuine source of charity, and that, in an abstract sense, charity is an elementary faculty of the mind, and is not the result of mixed feelings and affections. The man whom love of praise alone urges to the performance of deeds of charity is always fully sensible of the good he does; but he, who is generous from the whisperings of benevolence is scarcely conscious of his own superior merit.

This affection is the source of sympathy, and it is also the chief ingredient of that distinctive attribute of generous minds, called gratitude. The benevolent man cherishes in the deepest recesses of his soul the remembrance of benefits conferred on him, nor can any change of conduct in his early friend obliterate his thankfulness, although he might deem it right to discontinue for ever his former intimacy.

A singular case was shown to me, a long time ago at Peckham Lunatic Asylum, of a man who had lost his reason from excess of gratitude. He had been for many years a pauper in Clerkenwell workhouse, where his uniform good conduct, readiness to oblige, and rare

amiability of disposition, had gained for him the goodwill and marked consideration of successive parish authorities. Anxious to reward so much goodness, shining forth as it did, in this instance, through the gloom with which poverty had surrounded this humble creature, the authorities granted him a pension of 3s. 6d. a week with leave to go where he pleased. And what was the sad consequence? The poor man's gratitude was so excessive on having received a reward so disproportioned, in his own opinion, to any meritorious action that had ever been done by him, that his mind broke down, and his insanity was permanent. I well remember the tears of thankfulness that rolled down his care-worn cheeks, when the visiting physician, the late Dr. Ewin's, kindly asked him how he felt. He was a man about sixty, with a most benevolent expression of countenance, but strongly tinged with the hue of sadness; and upon his taking off his cap one of the largest organs of Benevolence I have ever seen was presented to our view. At the same time his organs of Firmness, Self-esteem, Acquisitiveness, and Destructiveness were all small. Thus, then, did the inherent weakness of these antagonistic faculties enhance the activity of benevolence by allowing free scope for the exercise of its pure and elevated functions.

A melancholy instance of the ill-effects of the exorbitant energy of morbidly excited benevolence was narrated in the *Times*, of November 1839, in the following words. "An extraordinary trial took place not long ago before the criminal court of Grenada. For some years past there had been residing in the village of Ugyai a charitable individual, named Don Vincente de Bentaval-y-Sazar, whose whole fortune was devoted to the improvement of the condition of the villagers and in relieving the poor. To

such an extent did Don Vincente carry his generosity that he denied himself almost the necessaries of life in order to succour the necessitous; and he had been known to take the cloak from his own back to cover that of a poor female who was without one. Suddenly, the peaceful inhabitants of the village were alarmed at accounts of murders committed in their neighbourhood, and all attempts to discover their origin were vain. It was merely known from the circumstances attending them, that they must have been committed by the same hand. Suddenly, however, the mystery was to be revealed. Two peasants, who had entered a recess to shelter themselves from the sun and eat their midday meal, were startled by the firing of a gun, and, rushing out to learn what was the matter, they saw the body of a murdered man, and the murderer standing over him rifling his pockets. They threw themselves on the assassin, and, having secured him, were in the greatest astonishment at seeing that it was the charitable Don Vincente. As the denial of the crime he had just committed was impossible, he confessed that he was the author of all the murders which had been committed, and stated that his only motive was to obtain money for the poor, his own resources being exhausted. In his defence before his judges he declared that his first murder, that of a wealthy priest, took place under the following circumstances:—

“In Don Vincente’s village two young persons were betrothed to each other; but a sudden calamity, which occurred to the father of the female prevented his paying the promised portion with his daughter, and the marriage was on the point of being broken off. Don Vincente, hearing of the circumstance, resolved to raise the money; and applied to several acquaintances for a loan, but

received a refusal from all of them. Shortly afterwards he met the priest on his road, and asked him to lend him thirty ounces of gold. The priest, who knew him well, replied that he had a hundred ounces in his portmanteau on the back of his mule, and that he was welcome to it all; but, Don Vincente, having, afterwards, in his joy, told him for what purpose the money was intended, the priest laughed at him, and said he was mad, and that for such a purpose he should not have a single ounce. Don Vincente, irritated at this, shot him dead, and, having taken his gold, gave the wedding dowry, and distributed the rest in various acts of charity. Having committed this murder, he resolved to make the robbery of the rich the means of meeting the continual wants of his poor pensioners; and as this was only to be done by taking life, he committed murder after murder, until he was detected. On hearing the sentence of death pronounced upon him by his judges, he exclaimed, Oh, my God! who now will take care of my poor?"

Here, then, is a powerful sentiment of benevolence worked up by constant exercise to a diseased condition; so much so, that all sense of justice, circumspection and reflection seemed to have been disregarded by this unfortunate man.

What a strange instance this is of the calamities which may arise from allowing any single faculty of the mind to be the sole spring of our actions, while we suffer other most essential powers to languish into inaction, and thereby destroy the mental harmony which proceeds from the mutual influence of well-balanced moral organs. For, sentiments the most elevated, when too energetic, may, as we have seen, be productives of evil, unless they be kept in check by controlling powers, reasonably

directed. Thus only can excessive disproportion be at all harmonized and amended.

How necessary it is, therefore, to watch with peculiar care the dawning of the youthful mind, in order to check the undue excitement of any faculty. And what a prospect does the science of Phrenology open to mankind of being able to know the mental tendencies and dispositions of children by the form of their heads, for it is obvious that in the want of such assistance we are compelled to wait for indications of temper and ability in the actions of youth; and are thereby forced to allow those tendencies to ripen into habit before a correct estimate of character can be formed. Whereas, by its help we can predicate tendencies, and prevent those tendencies from acquiring augmented strength through exercise, by the timely adoption of such methods of training as are best adapted to give a salutary direction to the moral, religious, and intellectual faculties.

That mankind, with a comparatively insignificant exception as to numbers, is amply endowed with the sentiment of Benevolence cannot admit of a doubt; for even the worst habits and most perverted dispositions can never wholly extinguish the nascent flame of kindness which the Creator has lighted up within us. Does a horse fall under a load in the street, numbers rush to the relief of the poor animal, and in their anxiety to extricate him willingly expose themselves to the risk of personal injury. Should a strong man maltreat and beat a weak one, what is the feeling evinced by the lowest individuals in a crowd? Sympathy for the sufferer; and this arouses their indignation against the oppressor. Even criminals have often, on trying occasions, displayed much benevolent tenderness. To illustrate this it will be well to mention

a case that occurred at the assizes of Galway many years ago.

Three young men, named Connor, Lardner, and Burke, were tried there, for burglary and robbery at the house of a small farmer, who had at that time been collecting rents for his landlord. They were all convicted on the single testimony of the man they had robbed, and were sentenced to death. The prosecutor then eagerly prayed the judge and jury to grant mercy to Burke, on account of the humanity he had displayed on the night of the robbery. He stated that Connor and Lardner had tied him down with strong cords upon his bed, in a very painful position; and then ransacked his drawers. All this time Burke kept watch at the door, and could have escaped with the others, without being seen at all by the prosecutor. But on hearing the agonizing cries of the poor man to be released from bondage, Burke came with a candle to his bedside to undo the knots; and said, "I could not have the heart to leave you alone in this state." It was during the performance of this humane act that the witness identified his features through the crape covering, a proof of the risk he ran in fulfilling the dictates of instinctive Benevolence. This young man's sentence was commuted at once to transportation by the judge, who said that for that signal act of humanity not a hair of his head should suffer.

Not very long after his arrival at Sydney, he was said to have received his manumission for good conduct. From his childhood this young man was remarkable for mildness and generosity, and had borne until then the character of an industrious man. But he was the victim of the direful influence of bad company upon some good, but unstable dispositions.

That pure, unalloyed benevolence is a power of the mind distinct in its nature from any other faculty or combination of faculties is a truth which cannot be controverted. Its separate existence, too, as a fundamental power implies the presence of an organ in the brain for its manifestation. And well-attested experience has established it as an indubitable fact that, in all persons who are remarkable for benevolence, there exists a marked elevation of the superior anterior part of the frontal bone, commencing at the top of the forehead, in the median line, and extending backwards about two inches; while the same part is small in those who are noted for instinctive cruelty or a heartless disregard of the sufferings of others. Not that there are not to be met with men endowed with a good development of the organ of Benevolence, who are capable of doing cruel acts. But this shows that no man should predicate character without taking a careful survey of all the organs so as to be able to form a correct judgment as to their mutual influence.

It will not be deemed uninteresting to mention how this organ of Benevolence was discovered by Gall.

Long before he thought of placing goodness of heart in the brain, his curiosity was excited by one of his friends, who used to say to him, "As you are engaged in the researches of the external marks, which indicate the qualities and faculties, you ought to examine the head of my servant Joseph. It is impossible to find goodness in a higher degree than in this boy. For more than ten years that he has been in my service, I have seen nothing in him but benevolence and gentleness. This is astonishing in one who, without any education, has grown up in the midst of an ill-bred rabble of servants." Upon hearing this Gall recalled to his recollection "The habitual

conduct of a young man whom he had known from his tenderest childhood, and who distinguished himself from his numerous brothers and sisters by the goodness of his heart. Though he passionately loved the sports of his age," says Gall, "and his greatest pleasure was to scour the forests in pursuit of birds' nests, as soon as one of his brothers or sisters was sick, a more irresistible inclination kept him at home, and he bestowed on the patient the most assiduous attention. When there were distributed to the children grapes, apples, cherries, he had always the smallest part, and rejoiced to see the others better provided for than himself. He was never better pleased than when anything agreeable happened to those he loved. In this case he often shed tears of joy. He took care of sheep, dogs, rabbits, pigeons, birds; and when one of his birds died he wept bitterly, which never failed to draw on him the ridicule of his companions. And even now," continues Gall, "benevolence and goodness are the distinctive character of this individual.

"His character has certainly not taken this turn from education. On the contrary, others, in regard to him, have pursued a conduct which should have produced an opposite effect. I began to suspect, therefore, that what is called a good heart is not an acquired quality, but innate.

"At the same time, I spoke of the goodness of heart so highly extolled in the servant Joseph, in a numerous family. 'Ah,' interrupted the eldest daughter, 'our brother Charles is precisely the same, you must really examine his head. I cannot tell you how good a boy he is.'

"I had therefore in sight three subjects whose goodness of character was well acknowledged. I took casts of all

three, I put their busts side by side, and examined them till I had the character common to these three heads, otherwise very differently formed. In the interval I had applied myself to find similar subjects in schools, families, etc., in order to be prepared to multiply and rectify my observations. I also extended these observations to animals, and I collected in a short time so great a number of facts, that there is no quality or fundamental faculty or organ whose existence is better established than that of Goodness, and the organ on which it depends.”*

The length of this quotation will, it is hoped, be excused, as it is given solely with the view of showing Gall's method of discovery and of his scrupulous determination not to admit anything as a fact, in proof of the truthfulness of his philosophy, which he did not find to be strictly, and beyond all question correct.

Spurzheim and every other subsequent investigator have verified Gall's discovery, and the collection of Deville alone, if there was no other in existence, afforded a sufficient amount of evidence to substantiate it beyond the possibility of doubt.

I might fill pages with cases over and over again noticed by myself which prove the unvarying connection between goodness of heart and the development of the anterior superior portion of the head just above the forehead in the middle line. But a few will suffice. The organ of Benevolence is very large in the head of the negro Eustache Belin. This man got the prize of virtue at Paris for his singularly humane and generous conduct (see Plate 5). It is very small in Greenacre, who basely

* American translation.

murdered, under circumstances of premeditated wickedness, the woman whom he had promised to marry, and died on the gallows without evincing the slightest signs of remorse. It is large in the cast of John Clare, the Northamptonshire peasant poet, who was endowed with sentiments of the most amiable and generous kind. When a mere boy he contrived, by the "sweat of his brow, as a farm labourer, to earn a scanty subsistence for his helpless mother and rheumatic father. The same part of the head is small in the cast of Martine, or Marline, a Frenchman who was guillotined for the murder of his widowed mother who supplied him with what money she could afford. But suspecting that she had property concealed he murdered her in the expectation of getting at once all she possessed (see Plate 9). Benevolence is very small in the head of Steventon, who robbed an old woman on the high road near Hereford of ten pence, and then killed her. Having soon after boasted of what he had done a constable who came to arrest him, very nearly fell a victim to his fury. So low was this man's head in the moral region that he was not conscious of having done wrong. He was, in truth, a moral idiot. The organ is small in the Prussian woman, Gotfried, already noticed under the head of Destructiveness.

Benevolence is very small in the head of Lacinaire, the cold blooded, remorseless assassin, and in the casts of the least merciful of culprits: in Bishop and Williams, for instance, who murdered the poor Italian boy and several other persons to sell their bodies to the anatomists. On the contrary, the same part of the head is invariably found large in all those who have been conspicuous for generosity, mercy, and forgivingness of temper. In Sharp's fine print of Richard Reynolds, the benevolent

quaker of Colebrooke Dale, the organ is exceedingly prominent, and it is very large in Audran's print of Fenelon. As examples from low life where education had but little influence in forming character, it may be interesting to compare White's fine engraving of Jack Shepherd, after a drawing of the same size by Sir James Thornhill, with a good print of Robert Bloomfield, the author of "The Farmer's Boy," published by himself. In the former, who was an arrant but ingenious thief, Benevolence, as well as the other organs of the moral and religious sentiments, is comparatively flat, while the same region of the head is high and protuberant in the gentle and moral poet Bloomfield.

In Sir J. Reynolds' portrait of Oliver Goldsmith, the organ of Benevolence is very large. And it is very conspicuous in the cast of the scull of Robert Burns. In the mask of Henry the Fourth of France the organ is very salient. He pardoned his enemies, and wished that he might live to see a fowl in the pot of every peasant in his kingdom. That sentiment of homely benevolence, says Burke, was worth all the splendid sayings that are recorded of kings. In the best busts and coins of Julius Cæsar, the organ of Benevolence is large, while it is not adequately developed in a very fine head that still remains of Marius, which is, at the same time, much broader at Destructiveness than the busts of Cæsar. The one generously pardoned all his enemies, the other slaughtered his with vindictive ferocity. In the busts of Nero and Caracalla, the same part of the head is greatly depressed, while it is remarkably elevated in those of Antoninus Pius and Marcus Aurelius.

We have already seen that in the lower animals, also, we find particular dispositions accompanied by peculiar

forms of the head. In all those that are remarkable for gentleness the skull is always found to be elevated in the median line above the eyes and between the ears, and a remarkable flatness of the same part is characteristic of the ferocious tribes. Compare the leopard, the panther, or the tiger, with the poodle dog or the gentle spaniel, and there can be no difficulty in seeing at a glance the vast disparity. In all birds that are gentle, such as the dove, the skull is high in proportion to its width; it is low and broad in the hawk and the eagle. There is, also, a vast difference between the appearance of the flat skull of the furious baboon and the elevated ones of the chimpanzee and orang-outang.

The diversity of character manifested in various kinds of wild animals, that roam unmolested and unchecked, in pursuit of objects suited to the gratification of their appetites, in the same lands, and exposed to the influence of the same external circumstances, cannot possibly have had its rise in habit or education; but must be the result of corporeal organs, specially adapted to be the expositors of such instinctive peculiarities. A still stronger proof presents itself in domestic animals. Dogs of the same litter manifest, even in the first months of their existence, tempers the most opposite. Some are, as they grow older, vicious, and insensible to kindness, others lick the hand that smites them. Two female cats, one the offspring of the other, had always been subjected to the same mode of treatment. Yet their tempers differed widely. The old one was remarkable for gentleness, and delighted in being caressed. The other was distant and cross-tempered, and was never known to come of her own accord into anyone's lap, or to remain there if taken into it. These cats resembled each other in every way except the form of the

head, which was high and somewhat arched in the one, and flat in the other between the ears. Gentleness and docility in the horse is always indicated by an elevation of the head, between the ears, about three inches above the eyes. Among mankind do we not find the greatest difference in respect to goodness even in members of the same family. Some are grudging and ill-natured, others gentle and kind-hearted; and the form of their heads differs widely in the region of the organ of Benevolence.

In the various races of wild uncultivated men, whom the blessings of civilization had not reached, our travellers have met with some who were meek, docile, and to some extent, reliable; while others were found to be indocile, morose, and treacherous. And it may here be repeated that their skulls present differences of form, exactly in accordance with the great law of nature discovered by Dr. Gall.

It is presumed that enough has been said in the preceding pages to prove that compassion for the afflicted, and benevolent aspirations for the advent of universal happiness, are not simply the result of any intellectual consideration, as to the principle of social utility; and, that so far from having their origin in self-love, as some speculative writers have supposed, they are diametrically opposed to it. That they are not the offspring of purely religious sentiment has also been shewn; although these certainly tend to enhance their activity. That benevolence is distinct from the abstract sense of justice is proved by its being found to be a marked feature in the characters of unjust and criminal individuals. Nevertheless, it has been shown that this "Attribute to God himself," is an essential ingredient of justice. For the simple love of justice

may lead to acts of injustice, where the other mental faculties are incapable of seeing what is really just. That, although it is not the sole promoter of almsdeeds, it is their only genuine and lasting source. And that benevolence is an innate quality of the human mind, and not the result of education, has been fully shown by a reference to instances of individuals, brought up precisely in the same manner, differing widely from each other in regard to meekness and generosity of disposition.

Hence it cannot be doubted that benevolence is a fundamental affection and not a mode of action of any other faculty. It may be well to state in addition to those cases already named that the organ of Benevolence is exceedingly large in the portrait of Dr. Cogan, the author of "Ethical Questions" and founder of the Royal Humane Society; and of Captain Coram who raised the Foundling Hospital; and in St. Vincent De Paul, who was a being of the most indefatigable beneficence. The situation of the organ has been already pointed out.

VENERATION—SENSE OF DEVOTION.

THE convolutions which lie just behind the organ of Benevolence and occupy the central portion of the top of the head, cause, when they are abounding, a marked elevation of that part called the fontanelle, in infants. They are covered, partly, by the superior portion of the frontal bone, and partly by the anterior superior angles of parietal bones. The size of this region bears no fixed proportion to the organ of Benevolence in front of it, nor to that of Firmness which has its seat immediately behind it. Sometimes, indeed, these two organs are remarkably salient, while this one is depressed. Of this fact the heads of William Godwin and Rammohun Roy are striking examples. On the contrary, this part, when very large, is often accompanied by an ample development of the other two, as may be seen in the casts of Canova, Flaxman, Crabbe, and Sir Walter Scott. The disparity of form in this region of the head between Lord Chancellor Eldon and Godwin is conspicuous in a rare degree. And between Lord Eldon and Richard Carlile, the publisher of Deistical books, the contrast is still more remarkable (see Plates, 1, 2, 3, 10.)

These convolutions constitute the organ of Veneration. And they are not to be found in the brain of the orang-outang, although it approaches nearer to the brain of man

than does that of any other species of animal. This fact was demonstrated by Spurzheim, before the Royal Society, on the 14th of May, 1829. And it was published by Treutel, Wurtz, and Richter, 30 Soho Square, London, in 1830.

In the history of the discovery of the religious sentiment, as a fundamental faculty of the mind, and of its organ, Gall says, "There were ten children of us in the house of my father; my brothers, my sisters and myself all received the same education; but our faculties and tendencies were very different. One of my brothers, from his infancy, had a strong tendency to devotion. His playthings were church vases, which he sculptured himself, copes and surplices which he made with paper. He prayed to God and said mass all day; and, when he was obliged to miss service at church, he passed his time in the house in ornamenting and gilding a crucifix of wood. My father had destined him to commerce; but he had an invincible aversion to the business of a merchant, because he said it forced one to lie. At the age of twenty-three years he lost all patience; having lost all hope of pursuing his studies, he fled from the house and turned hermit. Five years after he took orders; and, till his death, lived in exercises of devotion and penance." He goes on to say, "I observed in schools that, independently of other faculties, certain pupils had no susceptibility for religious instruction, while others were very eager for it. . . . This inclination was born in them without its being known how, and without its being possible to attribute it to example, education or surrounding objects. Most of these young persons devoted themselves to this career, contrary to the wishes of their parents and instructors."

Afterwards, being persuaded that the tendency to piety and the exercises of devotion are innate, Gall recalled the observations which he had made in his infancy on himself and his fellow-pupils. He visited churches of all sects and devoted himself especially to observing the heads of those who prayed most fervently, or who were most absorbed in their pious contemplations. And he goes on to say, "I was first struck by the circumstance that the most fervent devotees I had seen were almost always bald. Yet I asked myself what can baldness have in common with devotion? Women are rarely bald, yet they are more devout than men. I soon observed, however, that bald heads often rise gradually to the top, and that it was precisely this form of head which had first struck me. As soon as I was convinced by a considerable number of observations that most devout persons have heads so formed, I visited the monasteries and observed the monks, taking care to collect at the same time exact information in relation to their moral character. My observations were confirmed in those who performed the functions of preacher and confessor, but not always in the servants, as the butlers, cooks, etc." Thus did Gall continue to multiply his observations till he had satisfied himself that the part of the brain above described was the seat of the sentiment of the belief in God and of the disposition to religious worship.

Subsequent investigations have fully established the correctness of Gall's opinion, namely that fervent sentiments of devotion are always accompanied by a marked elevation of the centre of the top of the head. But though this coincidence is constant, still this part of the head has been found large in some individuals who were not at all remarkable for the strength of their

religious belief. Gall was, therefore, mistaken in attributing religious belief in the existence of God to the action of this part of the brain alone. It is true that a strong tendency to devotional exercises prepares the mind for the reception of those revelations, the most sublime of which are so shrouded in mysteries that the profoundest understanding is utterly incapable of fathoming their depths. Devotion to God is a mode of action of a fundamental power, the function of which is simply reverence. But it does not appear to comprehend within its sphere of action the power of instinctively suggesting the nature of the objects of its respect or adoration. These must be seen through the agency of other powers. A man, for instance, whose sense of justice and firmness are strikingly characteristic, but who has little benevolence, will respect the man who exacts in all cases strict retribution without paying proper attention to the cry of mercy. On the contrary, the individual in whose disposition benevolence is associated with justice and firmness in an equal degree, will revere him only whose acts of retributive justice bear the impress of benignity. Again, one in whom meekness is the dominant characteristic will love and respect him the most who is more ready to forgive injuries than to retaliate. And the one whose mental vision can instinctively descry through the shining portals of Faith the divine object of adoration, will value him the most whose life is spent to a large extent in devotional exercises. It is the same with respect to other faculties. Who, for instance, can be more venerated by lovers of freedom than the unselfish hero of liberty? The most exalted function of this faculty is adoration of a supreme, omnipotent being, an immaterial spirit, whose nature and essence the intellect

of man is incapable of appreciating. But before we can adore anything it is requisite that we should have some idea of its existence. The sentiment of veneration itself cannot originate the idea. What, then, is its source? Is it the result of intelligence?

Undoubtedly the wonders of the universe, conveyed through the medium of the external senses to our perceptive and reflective faculties, cannot fail to impress an intelligent being, gifted with the power of tracing the connexion between cause and effect, of the existence of an Almighty disposer of things, for since nothing can exist without a cause, and since nothing within the sphere of man's limited understanding could originate the meanest thing that lives, and since life could not be the result of chance, which is but an effect—a falling from God, it follows of necessity that there must exist some pure and wise Almighty Creator of all things, whose attributes are entirely beyond human comprehension.

Hence it would appear that, through the operation of his understanding, man may obtain a reasonable conviction of the existence of God. But that this is not the only mode, nor yet the most convincing through which a fervent belief in the existence of God and of his power is conveyed to the mind, will appear, when it is considered that fervency of faith is not in proportion to the amount of intellect which a man may possess.

Do we not find men who in their writings have evinced extraordinary talents in a high degree sceptical in matters of faith. Few, indeed, if any have ever really done so, have presumed to doubt concerning the existence of the Deity, but many eminent persons have been reluctant to place implicit belief in the power attributed to him by the bulk of mankind, or rather in the exercise of it,

as it was manifested in the incarnation, for the purpose of establishing the supremacy of religion and morality on earth.

Others, on the contrary, who have enriched the domain of science and of literature, have shone amongst the most prominent advocates of the truth of revelation. Belief or disbelief in the miraculous doctrines of Christianity cannot, therefore, be the result of intellectual calculation. Intellect is clearly an insufficient medium through which to discern its truthfulness. There must, then, be an internal sense or faculty which prompts mankind to believe instinctively in the supernatural, or in spiritual existencies, independent of any act of the understanding, although the understanding serves to regulate and restrain the intensity of the sentiment. Neither should active faith be looked upon as merely the result of an unreflecting and uneducated mind, for narrow-minded and untutored men are frequently found to be callous to the admonitions of spiritual instructors, while others of poor intellects are the first to imbibe and cherish a belief in those parts of revelation which the highest human intelligence is not capable of comprehending.

The last moments of some criminals afford a strong attestation of the first proposition. And some savage tribes, remarkable for inferiority of reasoning power, are yet strong in their religious belief—for religious it certainly is, though it takes the form of irrational superstition. "Superstition," says Edmund Burke, "is the religion of feeble minds, and they must be tolerated in an intermixture of it, in some trifling or some enthusiastic shape or other, else you will deprive weak minds of a resource found necessary to the strongest."

It is clear, then, that religious sentiments are neither the offspring of vigorous nor of weak understandings. They must, therefore, arise from affections, the impulses of which are independent of intellect. What then is the nature of these affections ?

Religion consists, chiefly, in obedience to the will of God, in a reliance on his promises, and in an unfeigned desire to imitate his goodness. But, since the feeling that prompts to obedience can give no intimation of the object to be obeyed, there is some other primitive faculty necessary besides veneration to enable us to form a conception of it. And, since the attributes of this omnipotent being are beyond the reach of man's limited powers of mere intellectual comprehension, adapted as they are to sensible and material objects and to human thoughts and desires only, there must, necessarily, exist a special faculty to render us capable of having implicit credence in the existence of spiritual things, and of a mysterious omniscient Creator, who never had a beginning and is to exist eternally. This affection has been named the sense of the marvellous, or supernatural ; and also of the mysterious, and the wonderful.

Religious faith, then, is a compound affection arising from the action of the sentiments of Marvellousness and Veneration, harmoniously blended with other affections, both moral and intellectual. The necessity for this union of qualities in the composition of a religious mind is not to be overlooked in forming a judgement of character on phrenological principles. For mere belief in the existence of spiritual things has not unfrequently been evinced by persons in no way remarkable for religious observances, while others have been characterized by reverential and obedient tendencies, whose minds were

impervious to the light of Christianity ; so far, at least as its mysterious attributes are involved.

Since, therefore, a fundamental faculty, which imparts a sense of the marvellous, exists, there must be a particular part of the brain for its evolvment. Dr. Gall was the first to observe that persons disposed to have visions have a considerable enlargement of the superior lateral portion of the frontal bone, resembling the segment of a circle. He was far, however, from supposing that belief in the existence of a Supreme Being had any connection with this organ. Finding that the convolution was placed between those of Imitation and Ideality, he puts the following questions. "Does this convolution make part of the organ of Imitation, and does its excessive development exalt the talent for imitation, so as to cause it to give to ideas of its own creation an external existence, and make them appear as if coming to us from without? Or does this convolution at the same time make part both of poetry and imitation? Or, in fine, does it constitute a particular organ? This is what further researches alone will be able to decide. . . . As it is very possible that visions are only the blended result of an exalted action of one of those two organs, or of the two together, I have not thought it necessary to consider it as a particular organ."

These speculations have not been verified by the facts which have been collected since Gall's time. Indeed, it is no uncommon thing to meet with persons, who manifest great powers of imitation, and are yet by no means visionary. While, on the contrary, there are visionaries who evince but little proneness to mimicry. Moreover, the convolution above described bears no proportion to the extent of the imitative faculty ; while this power is always in accordance with the development of the

convolution that lies between Benevolence and the organ of the sense of the Marvellous.

It is highly probable that this part of the brain, as surmised by Gall, exercises much influence upon the organ of Imitation, as it certainly does upon that of Ideality or Poetry, as Gall calls it. But that is not the question I am now considering. My object is to show that there exists a sense of the marvellous and supernatural which is a fundamental, independent faculty or affection, and that its manifestation depends upon the condition of a part of the brain already described, which Doctor Gall always found largely developed in persons who fancied they held converse with supernatural or spiritual objects. Subsequent investigators have collected and recorded a vast amount of well-authenticated facts in corroboration of his discovery.

It is obvious that a belief in visions and mysterious agencies must be a mode of action of the same faculty which prompts to belief in the existence of a Supreme Being, only that the former manifestation of it is the result of the morbid exaltation of the faculty, whilst the latter is its sublime and normal function.

Having now taken a view of the combined influence of marvellousness and veneration upon the human character, it will be right, for the sake of clearness, to make some observations on the nature of each of them separately.

Humility is one of the attributes of the faculty of Veneration, and how gratifying it is to the earnest disciples of Gall to find that the portion of brain which is invariably found to be essential to the manifestation of that sentiment, should lie in harmonious contiguousness with the organ of Benevolence and Meekness.

The admonition of Christ to his faithful followers—"Learn of me, for I am meek and humble of heart," was directly addressed to these two affections. "Humility," says St. Francis De Sales, "perfects us with respect to God, and meekness with regard to our neighbour." These two sentiments, sustained by abiding faith and lively hope, were the hallowed source of that meek fortitude and self-sacrificing resignation displayed by the early Christian martyrs. Indeed, in every relation of life these dispositions shed a halo of serenity and repose around the dark and stormy elements of disaster and of sorrow to which we are so often exposed.

But, like every other faculty, the sentiment of Veneration may be abused, and its ill-directed energies may lead to much public and private misfortune. Would not unremitting attention to devotional exercise, for instance, be a grievous dereliction of duty in the mother of a young family? whereas the greater part of her time should be occupied in sedulously attending to the genial and important office which nature destined her to fulfil?

This feeling induces a reverence for ancient institutions and profound respect for those in authority. Hence it must be regarded as an important safeguard against ill-digested levelling principles of innovation, and a supporter of order and established government. On the other hand it is quite necessary that the political leanings of this sentiment should be carefully watched, lest its salutary tendencies degenerate into unmanly subserviency. The degrading doctrine of the divine right of kings to substitute their own wills for law, and the mean-spirited suggestions of that of passive obedience have had their chief support in the abused and corrupted energy of this faculty. Hence it has been the indirect abettor and

encourager of tyranny and the enemy of every improvement which threatened to trench upon ancient usages (see Plates 1 & 3).

How necessary it was, therefore, that mankind should possess other faculties calculated to counteract the undue predominance of this. Those are Conscientiousness, Self-esteem, Love of Distinction, Firmness and Courage. It is worthy of remark that the organs of these powers, except the last mentioned, lie in the immediate vicinity of that of Veneration. They were placed there by the hand of the Creator and, probably, ordained by him to be, as it were, faithful sentinels at the portals of the temple of personal liberty, which the passive and unselfish nature of the other would unwittingly expose to the assaults of tyranny and the inroads of usurpation.

The organs of the religious sentiments sometimes become diseased; and, strange to say, religious mania has been the cause of deeds, which it is the special object of religion to condemn. Even murder has been, occasionally, the result of morbidly excited devotional feeling, at one time for the honour of religion, at another for the insane purpose of benefitting the victim of this morbid sense of duty.

Robert Deane was executed in London, many years ago, for the murder of a child to whom he was very much attached. His love for the child filled his mind with dismal forebodings as to her future prospects; and, in order to remove her from the perils, to which he imagined she would be inevitably exposed in her progress through life, he formed the maniacal resolution to kill her; since he was assured by an internal monitor that her innocence would open for her a passage to the mansions of eternal bliss. Before he committed the dreadful act he caressed

the child with more than his accustomed tenderness, and fervently prayed to God in the poor babe's behalf.

It may be proper to state that Deane was remarkable for a pious turn of mind ; that his behaviour was peaceable and becoming ; and that the form of his head was strongly indicative of his conduct and motives. The organ of Benevolence was full, that of Veneration large ; and the organ of Love of Offspring and of children in general remarkably developed. Conscientiousness, Hope, and Ideality were comparatively small ; and his intellectual organs were only moderate, while Destructiveness and the other animal organs were large.

The next case is that of a lunatic seaman, named Welsh, a patient at Haslar Hospital many years ago. This unhappy man had an unconquerable propensity to murder ; and he actually did murder two men. The organ of Veneration was very large in Welsh's head, and those of the animal propensities were also very protuberant, especially Destructiveness. One day this man asked Dr. James Scott's assistant, Dr. Patrick Martyn, whom he liked and had some confidence in, if he would let him into his neighbour's cell. And when asked what his object was, he said he wanted to kill him, because he abused Christ and the Virgin Mary. The young surgeon then asked, "Would you kill me." He said, "No, you are my friend. But I would kill even yourself if you were to say anything against Christ and the Virgin Mary." In this case, a naturally strong sentiment of devotion was seemingly the incentive to acts of violence and bloodshed in a lunatic whose mind was disposed for the commission of such deeds.

In every well-constituted mind the feeling of respectfulness greatly enhances individual happiness, and adds

to the delights of social intercourse. A man may love goodness and admire loveliness, be faithful in his attachments and assiduously attentive to the object of his affections, yet, if he be deficient in the sense of Respectfulness, his love may sometimes wear the hue of selfishness and his tenderness lose its grace by being robed in the garb of condescension. There will be wanting that "subordination of the heart" which never fails to inspire confidence and greatly to augment the value of kindness, by removing from its escutcheon every symbol of self-love. It imparts that degree of respect for the opinions of others, which is essential to the forming of just conclusions in regard to circumstances in which our own predilections might lead us, in its absence, to be unjustly dogmatical. Thus does this affection form one of the moral harbingers of peace, by directly serving to restrain those feelings, which are, in their nature opposed to conciliation. But, it must not be forgotten that when this sentiment is strong, and unaccompanied by an adequate endowment of Benevolence, Conscientiousness, and a proper sense of pride, while Acquisitiveness, Secretiveness, and the lower propensities, generally, are active, much hypocritical reverence and time-serving adulation will form the prominent features of a character so constituted. Hence the necessity of carefully watching the nascent tendencies of youth, so as to be enabled to curb the undue predominance of any faculty which might interfere with the harmonious working of all.

In the cast from the head of Lord Chancellor Eldon, whose bigoted abhorrence of all political reformation was notorious, the organ of Veneration is exceedingly salient, while it is as remarkably hollow in the cast of William Godwin, the author of "Political Justice," a work which

advocates political views of a diametrically opposite nature. In the casts of Coleridge and Crabbe it is strikingly prominent, and in Sir Walter Scott's cast from nature this region of the head is of almost unparalleled elevation (see Plates 1, 2, 3, & 16). It is depressed in Rammohun Roy, who, although a Brahmin, repudiated all veneration for the cherished creed of his ancestors, when he discerned the irrational and superstitious nature of its dogmas and observances. Let the portraits of Gobinet (who was called, "*Sorboniæ gloria magna domus*,") by Edelinck, and that of Fenelon, by Audran, be compared with the portrait of Cardinal De Retz, by Nanteuil, and the great disparity in the size of the organ of Veneration must strike the most careless observer.

In the bald heads of St. Ignatius Loyola and St. Francis De Sales, the former engraved by Vosterman, the latter from a painting by Ant. Dieu, the organs of Veneration, Marvellousness, and Hope are very elevated, but the first is remarkably conspicuous in both of them. In Loyola it stands out in a more isolated form. In De Sales it is blended rather more harmoniously with a remarkably large organ of Benevolence. In St. Charles and Frederic Borromeo a similar height of the same region of the head is conspicuous. The same part is remarkably large in Bishop Ridley, whose portrait is almost the only one of the eminent religious reformers that has been handed down to us without a covering on the head. Combined with indications of noble moral and intellectual qualities, the organ of Veneration is large in Melancthon.

In a print by T. Smith, published in 1772, of "The Inspired Drum-major of the Northamptonshire Militia,"

as he was seen preaching from some church pulpit, the organ of Veneration, and also those of Marvellousness and Hope, are extremely large. And to his well-developed forehead and very salient organ of Language, is to be attributed his tendency and ability to give vent to the ruling sentiments of his nature through the medium of eloquent and fervent preaching. It is interesting to contrast this with a portrait of Henry Rogers, a pewterer of Cornwall, who, to evade a process of Chancery, barricaded his house, and shot several men who accompanied the sheriff for the purpose of ejecting him, before they could effect an entrance. Shortly before he was hanged for these murders he attempted to kill the sheriff in prison, and said he would die happy if he had succeeded in the attempt. The account of him states that his religious instructor could not, in the least degree, affect "his brutal stupidity, and he went to the gallows without any remorse." This print was published in 1735. The head is very broad, and excessively low. It is even hollow in the region of Benevolence and Veneration, and Marvellousness is very small. The contrast between this head and that of St. Francis De Sales is remarkably striking.

Veneration is an elementary faculty which is exclusively human, and its organ in the brain is, beyond any doubt, thoroughly established.

FIRMNESS.

THE most careless observer of human conduct cannot fail to notice in some individuals a marked tenacity of purpose of which others are comparatively destitute. The affection from which springs this mental peculiarity is called Firmness. Its prevalence, under rational and moral restrictions, is of great importance both in private and in public life. Nations composed of men, who happen to be, in the main, amply endowed with this power, are remarkable for steadfastness and untiring perseverance in pursuit of whatever they may, collectively, deem of importance to the welfare of the people at large. But when once they have obtained the object of their wishes, nothing but the most overwhelming compulsion could force them to attempt the undoing of that which cost them such sacrifices to establish, and of the beneficial efficacy of which they still continue to entertain sanguine expectations. In politics, therefore, this faculty is of the utmost value. A people, in whose mental constitution firmness is found to be a characteristic ingredient, are not likely to be driven about by every "wind of doctrine." They may be sensible of the existence of blemishes which disfigure the fair features of the constitution; they may long for the fulfilment of those theoretic visions of political purity and happiness, which would be the result of the active predominance of the moral sentiments, but which they know

can never be realised, while selfishness continues to sway the motives of most of those men, whose talents, energies, and industry enable them to form the channels through which the current of popular opinions is accustomed to flow. They may be aware of these imperfections, but so long as firmness shall characterise a nation, the majority will lend an unwilling ear to the blandishments of eloquence, should that most influential offspring of the highest mental powers, harmoniously combined, be used for the purpose of effecting a sudden uprooting of long established institutions. Of course, caution and reflection, as well as veneration for old institutions, must also be national characteristics. But to support these Firmness is essential.

Let us suppose that the inhabitants of two great countries are pretty equally endowed with intellectual and moral dispositions, but that we find self-esteem and firmness characteristic of the one, while love of distinction forms the most striking feature of the other. Let us further suppose that the institutions, by which each of them happens to be governed, partake of much that is erroneous in theory, and not a little that might be justly regarded as detrimental in practice, but which, nevertheless, are found, by experience, to possess a majority of qualities, which are fundamentally salutary, and, properly administered, calculated to conduce to the general weal. If, under such circumstances, men of great ambition, courage, and extraordinary talents, justly dissatisfied with the deteriorating influence of the unsound parts of the political system, were to use the influence which eloquence is so well calculated to confer, for the purpose of summarily demolishing the old constitutional edifice, in order to raise upon a new foundation a

structure more suited, in all its compartments, to the individual taste of the new projector, which of the two nations would be most likely to become the prey of crude revolutionary doctrines? Undoubtedly, the one in which love of glory, with comparatively little firmness, happens to be the paramount principle of action. For, the love of glory, when not kept in check by circumspection and firmness, delights in any new experiment that affords a prospect of its being sooner or later possessed of the objects of its insatiable longings. In such a case a strong sense of attachment and of reverence would enhance the effect of firmness.

Fickleness of disposition must, then, be deemed a concomitant of exorbitant love of glory, with defective firmness and circumspection. A people, thus generally organized, would become willing instruments in the hands of some ambitious and commanding individual; while a nation, in which the ardour of love of fame is mellowed by caution and firmness—the one by awakening reflection, the other by imparting fixedness of purpose—will always pause before embarking in perilous enterprises, and will rest content with a gradual and rational reformation of abuses. Such a people do not require a large standing army to keep them in order.

Hence it may be inferred that firmness is of the utmost importance in every relation of life, and that it is a powerful auxiliary in maintaining the supremacy of the moral sentiments. But it must not be forgotten that it is, also, ready to subserve the interest of the selfish passions, should they happen to be the leading features of character. The position of the organ indicates its liability to be acted upon by these antagonistic influences; for it lies between the organs of Conscientiousness; and

it is bounded anteriorly by Veneration and posteriorly by Self-esteem.

For instance, Firmness, with large Self-esteem and Love of Approbation, and with moderate Conscientiousness and Benevolence, produces obstinacy and a disinclination to acknowledge a fault or even a mere mistake.

On the other hand, Veneration and Benevolence, unopposed by an adequate amount of Self-esteem, would prompt persons to pay too much deference to the opinions and wishes of others. Self-esteem, aided by some of the lower feelings, would lead to intolerance, if the influence of Benevolence and Veneration were weak. Conscientiousness desires to hold the balance even between these opposing affections, and would naturally turn the scale in favour of the unselfish passions. But, even the sense of justice will, in trying and difficult positions, require the support of active firmness.

In fine, firmness, when acting in unison with the moral sentiments, supports a dignified demeanour; but, when bad passions predominate, an excessive development of the organ of Firmness renders these much more dangerous. Hence, firmness cannot be essentially a moral sentiment; however powerful it is as a sustainer of noble characteristics. It appears to be a mental quality *sui generis*.

This affection has been deemed synonymous with perseverance: but, although firmness supports the other powers in their efforts to persevere, especially under difficulties, still the power to persevere does not always depend upon firmness; for, whenever a combination of organs, necessary for the pursuit of any special art or science, is strongly developed, such organs, through an inherent power of their own, will be active and persevering

in their efforts to obtain a thorough knowledge of the objects which are appreciable by themselves alone. A man, for instance, who is endowed with musical faculties in an eminent degree, will persevere in such studies as are alone capable of enabling him to gratify his love for music. There have been some great musical composers, who were not all remarkable for firmness of character. Yet, surely, their eminent proficiency in the art of music could not be attained without great perseverance. He that possesses genius for painting or sculpture will persevere in his efforts to gain a mastery over the difficulties of these fine arts; but yet, as a man, he may want firmness of character. The late Benjamin West, President of the Royal Academy, may be brought forward as a case in point. His long life was exclusively and perseveringly devoted to the art of painting; and yet he was wanting in firmness of character. And, accordingly we find that in the cast of his head, taken after death, the organ of Firmness is small, while the organs of the faculties which constitute a talent for painting were large. With what perseverance did Flaxman cultivate his great genius for sculpture, and yet Flaxman was more gentle and yielding than firm and determined. And in his bust, also, this organ was but moderately developed.

The more dominant the faculty the more inclined it is to persevere for the sake of its own gratification. The thief will persevere in robbing for the gratification of acquisitiveness; the sensualist, disregarding the decencies of life, will persevere in the indulgence of the lower propensities; while the individual, in whom the organ of Benevolence is very large, will persevere in the performance of acts of charity.

Nevertheless, though firmness is not, in this point of view, essential to the existence of the persevering quality, it is indispensable as an instinctive imparter of power to persevere in resisting the gratification of dominant tendencies, which reason and the moral sense would condemn. Had the unhappy Dr. Dodd had some firmness of character, he might have been enabled to persevere in curbing the impulses which hurried him on perseveringly in his incautious and culpable career.

That firmness is a fundamental power of the mind there cannot be a doubt. It is not merely the result of courage, though courage enables one to show firmness. But a man may be very courageous and yet vacillating and unstable, or he may be immovably firm and wanting in courage. Dr. Dodd possessed courage amounting to recklessness in pursuit of his pleasures, but he was lamentably deficient in firmness (see Plate 9).

Since firmness, then, is a primitive affection, it must have a certain part of the brain for its manifestation. The relative position of its organ has been already described. When large, the posterior part of the top of the head is remarkably elevated. The action of the head is stiff and constrained, and even the body evinces, in all its motions, an ungraceful inflexibility.

The organ of Firmness is very large in the case of the late Richard Carlile, the bookseller of Fleet Street. This man suffered more than six years' imprisonment for his infidel publications, rather than promise to desist from such practices upon his being liberated. At length Government, without any stipulation, discharged him. But he soon resumed his old conduct more daringly than ever. He even went so far as to remove his first-floor window sashes, and suspended in one of the windows

the effigy of a bishop of the Church of England, and in the other the black figure of Satan. He was again prosecuted for this outrage upon the religious sentiments of Christendom, and committed to gaol, whence he was discharged after nearly four years' confinement, but without his apologising or retracting in the least degree (see Plate 3). His associate, Robert Taylor, who was imprisoned at the same time, was so far wanting in firmness to bear the privations attached to prison discipline, that his mind for a moment lost its balance, and in a fit of frenzy he attempted to kill the sheriff. But nothing could subdue the imperturbable firmness of Carlile. The organ of Firmness was moderate in the head of Taylor. In the skull of Humphrey, Duke of Gloucester, this part of the head is very large, and, according to the records of history, his firmness sometimes amounted to unwise pertinacity, notwithstanding the superiority of his understanding and his nobleness of character. In the skull of King Edward the Second the organ is rather small, and certainly, though not wanting in courage he was the victim of irresolution. Want of firmness and intellectual indolence exposed him to the loss of his throne and life. While the powerful and active intellect of Humphrey, and his impetuous determined character, rendered him an object of dread to his enemies, whose persecutions were at length fatal to him (see Plate 5).

In the portraits of Charles the Twelfth, Wallenstein, and Suwarrow, firmness is remarkably large. It is relatively small in Sir Kenelm Digby, a man of great mental endowments, and great personal courage, but wanting in firmness. It is moderate in the cast from nature of the painter Fuseli, and in West, as has been

already noticed, it is rather small. In Stubbs, the animal painter, the organ is very large. It is moderate in the skull of Robert Burns. In Swift's it is proportionately much larger. It is large in the head of William Godwin and moderate in Wordsworth, and in the head of B. R. Haydon, the painter, the organ of Firmness was very poorly developed. In this region, the head of Sir Walter Scott was very high, but in him it was united with such an assemblage of nobly-developed moral organs as would deprive it of characteristic supremacy. The same part is very prominent in Cooper, the young highwayman of Hornsey, whose firmness of character was not to be subdued; and very small in the culprit Corder, whose indecision was strikingly manifested.

It may be interesting to add a few instances in corroboration of these, taken from the remains of ancient sculpture. In the busts of the two Cato's this organ is very salient. But in the elder it is accompanied by greater Self-esteem and Love of Approbation. Though well-developed in the magnanimous Scipio Affricanus, still, owing to the superior development of the organs of Veneration and Benevolence in his head, it is not by any means so prominent as it is in the bust of the iron-willed Cato the censor, the implacable persecutor of his family. In Marcus Vipsanius Agrippa it was large. It was moderate in his brave but less decided opponent Sextus Pompey. In the great Trajan this organ is large. It is small in the amiable and well-intentioned but irresolute Alexander Severus. Firmness, backed by strongly marked Self-esteem, is a salient and characteristic feature in the head of Zeno, the founder of the Stoic philosophy, whilst a moderate development of the same organs is strikingly manifest in the fine antique bust of the wise poet

Horace, the genial and social asserter and practiser of the doctrines of Epicurus. And it is an interesting and instructive fact that the same region of the head is but moderately developed in the best coins of his friend and patron Mecenass, whose disposition in this respect really harmonised with his own. And the difference between the characters of the rugged and stern Cato, the censor, and Mecenass, a man distinguished for his love of social ease and refinement of manners, even savouring of Epicurean effeminacy, is strikingly indicated by the moderate development of the organ of Firmness in the wise and politic counsellor of Augustus, and its protuberant saliency in the head of the great and uncompromising prop of the early republic.

The existence and local position of the organ of Firmness are facts of which there does not exist the slightest doubt.

CONSCIENTIOUSNESS — SENSE OF JUSTICE.

ON each side of the organ of Firmness and between it and Cautiousness there is a part of the brain which bears no fixed proportion, as to size, to either of these organs. It is sometimes large and elevated, when either one or both of them may be relatively depressed, or it may be small and depressed, while the others are salient. Of the former state of things the cast of the head of Dr. Gall himself is a notable instance; the head of Dr. William Dodd, affords a striking specimen of the latter (see Plate 9).

Gall did not seem prepared to associate this part of the head with any special function. But, as it bears no regular proportion in regard to magnitude to the parts surrounding it, it cannot be supposed to share in the manifestation of any of the affections of which those parts are proved to be, beyond all reasonable controversy, the true material exponents. In course of time Spurzheim found that this part of the top of the head was always large in persons who had the reputation of being just in their dealings, while it was small in thieves, and in people of bad character, who did not feel the injustice of their conduct; and, after satisfying himself by reasoning that the sense of justice is a primitive sentiment, he named that part the organ of Conscientiousness.

Gall did not see any necessity for this new organ. He considered Conscience, or the moral sense, to be the primitive function of the organ of Benevolence, of which he thought charity and sympathy to be more impassioned modes of action. Spurzheim, on the contrary, argued that the sense of justice was a primitive faculty, distinct from benevolence.

It is true that the moral sense or the love of justice, taken in its most comprehensive signification, cannot be manifested without benevolence. But the abstract sense of justice does not appear to originate in the same source. On the contrary, the gentle voice of charity has frequently been hushed by the stern mandate of conscientiousness; and, mercy, the most divine of human attributes, is known to exert its power in mollifying the harshness of retributive justice.

Do we not, in our course through life, meet with men of the strictest integrity in all their dealings, who, nevertheless, fall short of that true disinterestedness which always characterizes the man in whom benevolence predominates? Indeed, the steady face of justice is sometimes tinged with the unwholesome hues of selfishness. Do we not find some individuals strictly upright in conducting the affairs of others, whose judicial vision would become obscured, in respect to impartial justice, should their own personal interests be implicated in the adjustment? Yet the sense of justice holds in check the promptings of self-esteem and ambition, and thus becomes a powerful barrier against the inroads which the lowest propensities are by nature striving to make upon the fair domain of the noblest affections of our nature.

There can be no doubt of the existence of a primitive faculty which causes a desire for justice. But will this

instinct of justice or conscientiousness of itself produce that upright abandonment of exclusive self-interest, without which act, justice, in its most comprehensive sense, cannot exist? It is not likely that it can. For instance, the avaricious and selfish man, in phrenological phrase, the man endowed with large Acquisitiveness and Self-esteem, may also be imbued with a strong sense of justice; but yet his views, with regard to justice, as it should subsist between himself and others, would be different from his, who has large Benevolence and Conscientiousness with small Acquisitiveness and moderate Self-esteem.

The infidel who possesses a strong sense of justice and great self-esteem ridicules as fools or denounces as knaves those who confide in the truth of revelation. And he feels that it would be an act of justice to the community of which he is a member to tear away by the roots the stock upon which the fair blossoms of hope in a future existence, where sorrow can find no entrance, are by the eye of Faith seen to flourish. But sophistry and eloquence, however plausible, can never eradicate faculties which were, even in the beginning, implanted in the mind of man by the will of a beneficent Creator.

If the unbeliever, instead of deriving his opinions from the dictates of his own instinctive consciousness, were to look abroad and examine the peculiarities of other men's minds and search for the true foundations of those idiosyncracies, he would soon find that the seeds from which they sprang were sown by Nature's hand (see Plates 1 & 3).

But how can he who has been taught to think that all our affections, both moral, religious, and intellectual, are the result of imitation, habit, and external circumstances,

bring himself to believe that others are naturally endowed with dispositions which have been in a special manner denied to himself? Hence arises his incredulity as to the religious sincerity of some, and his considerate pity for the superstitious thralldom which he thinks deprives others of all freedom of thought. Convinced of the rectitude of his opinions, his Conscientiousness urges him, even though he should become a martyr in the cause, to use all his energies in the vain expectation of eradicating distinct and inherent attributes of the human mind.

The head of Richard Carlile, late of Fleet Street, who has been noticed already under the head of Firmness as a publisher of Deistical books, was strikingly illustrative of these mental characteristics, for in the original cast of his head the organs of Firmness, Self-esteem, and Conscientiousness are extremely protuberant, while those of Supernaturality and Veneration are small. And though the forehead was a well-developed one, it was comparatively wanting in those distinctive marks of intellectual reflectiveness and comprehensive deliberation which might have served to restrain the impetuous promptings of large organs of Combativeness and Destructiveness (see Plate 3).

Here, then, it is evident that strong conscientious feelings will sometimes urge a man to attempt that which would be manifestly unjust when those affections which form the principle ingredients of the character he judges are denied to himself.

Surely this leads to the conclusion that real and impartial justice must be the result of a combination of faculties acting in harmony with each other, and that it is not the effect of the action of the simple faculty of conscientiousness alone. In such a combination benevolence must

hold a conspicuous position, for it is an essential ingredient of justice.

Is the sense of justice, then, a mode of action of the organ of Benevolence? Such does not seem to be the case, for in some instances where it becomes necessary to minister to the dictates of the former sentiment, mercy, the offspring of the latter, becomes painfully affected, and feels a delightful emotion should any circumstances arise to mitigate the severity of justice. Some men, as has been shewn in the chapter on Benevolence, have committed robbery and even murder to gratify a morbid craving to satisfy benevolent desires. Haggart, the robber of Edinburgh, clothed destitute and abandoned creatures with the goods which he stole from shops and warehouses. Cooper, the highwayman of Hornsey, used to divide the money he got on the road amongst needy companions. In the casts of these men the organ of Benevolence is large, while that of Conscientiousness is but poorly developed, especially in Haggart.

If Gall be right in supposing that the moral sense or conscientiousness is the result of benevolence, acting in its least excited condition, and bearing the same proportion to compassion as a moderate wish to acquire property does to the propensity to rob, how comes it that severe retributive justice is a painful necessity to a judge in whose character benevolence is the leading attribute? And how is it that a judge with little benevolence in his nature would, in the like circumstances, feel not the least regret? If the sense of justice be simply a mode of action of the organ of Benevolence this could not happen, since, according to a general law, the larger the organ the more stern and exacting it would be in seeing retributive justice executed. Compassion, charity,

mercy, and forgiveness of temper are, on the contrary, the benign attributes of a predominant organ of Benevolence, and not retributive justice. Forgive your enemies, and pray for those who persecute and calumniate you, were injunctions directly addressed to benevolence, and not to the sense of justice. But yet sympathy for those that are suffering or oppressed is a powerful incentive to the energetic passions to inflict retributive justice on wrong-doers. Still the pleasure afforded by retaliation is not the attribute of benevolence, nor can it rejoice in the punishment which its own painful sympathy for the oppressed caused other dispositions to inflict. But to the simple sense of justice without the admixture of compassion, such retribution gives satisfaction. Do unto others as others do unto you, is a maxim of the sense of justice, swathed in the dusky robes of selfishness. Do unto others as you would wish others to do unto you, is instigated by strict unbiassed conscientiousness. Forgive your enemies is the instinctive prompting of the almost divine inward monitor, benevolence. The demand of an eye for an eye was the suggestion of the sense of justice in a selfish garb. If a man smite you on one cheek turn to him the other was the teaching of benevolence.

Indeed, it seems perfectly clear that the simple sense of Justice or Conscientiousness, as Spurzheim has named the faculty, is not a mode of action or a quality of benevolence. But, at the same time, the mere desire for justice as a fundamental affection does not of itself insure justice in action, for righteous conduct is the result of the harmonious blending of the sense of justice with all the higher qualities of man's nature, amongst which benevolence holds the loftiest position.

“And earthly power doth then shew likest God’s,
When mercy seasons justice.”

But to discern what is just, reason is an indispensable auxiliary.

Dr. Gall himself was the great observer who first pointed out the organ of Benevolence in gentle, docile animals, and its comparative absence in those that are naturally cruel and indocile. I have closely examined hundreds of animals which prove this to be an invariable occurrence. But it does not seem probable (although Dr. Gall thinks the contrary to be the case) that any of the inferior animals ever exhibited in their conduct any trace of a sense of justice. The instinctive sense of justice cannot, therefore, be a mode of action of the organ of Benevolence, although benevolence is a noble element in the constitution of justice itself.

An unconquerable love of retributive justice prompted Lucius Junius Brutus to stifle the breathings of kindness and silence the latent whisperings of parental love when, as it is written, he consigned his own sons to an ignominious death for having betrayed the cause of freedom. Marcus Brutus tore from his bosom the ties of friendship and gratitude by which he was in duty bound to Cæsar, to do what he conceived to be an act of justice to his country. But this impulse to justice could not have originated in Benevolence, for benevolence is the soul of gratitude. Brutus repudiated gratitude. His sense of justice could not, therefore, have sprung from Benevolence, for an organ cannot be active and inactive at the same time. Manlius Torquatus doubtless felt that he was obeying the stern dictates of conscientiousness when he condemned his own son to death for disobedience of military orders, at the moment when the gallant hero

was laying at his father's feet the spoils of his vanquished foe. Surely clemency, the benign offspring of benevolence, could have had no share in such an act as this. But howsoever barbarous and shocking his conduct, Manlius was actuated solely by a sense of justice. This cannot then be deemed a quality or modification of the sentiment of benevolence.

As some eminent modern historians have thrown doubts upon the truth of this ancient legend of Manlius Torquatus, I shall narrate a case which is equally illustrative of the point I am now endeavouring to clear up. It is one of the most remarkable instances of inflexible justice that has ever been recorded by the pen of a historian. It occurred in the town of Galway in the year 1493, and is told by an esteemed friend of my own, the late James Hardiman, in his excellent history of that place. The story has since been dramatised by the Reverend Mr. Groves, and called the "Warden of Galway."

Walter Lynch, the only son of James Lynch Fitz-Stephen, who was mayor of Galway in that year, murdered in a fit of jealousy a young Spanish gentleman named Gomez, whose father was a rich merchant of Cadiz. And his crime was aggravated by the fact that the unhappy victim of his rage was then on a visit at the house of the elder Lynch, between whom and the Spanish merchant an intimate friendship had for some time subsisted. The unfortunate perpetrator of this barbarous act soon repented of his crime, and next day delivered himself up to justice. He was tried, convicted, and received sentence of death from the mouth of his afflicted father.

"Within the short compass of a few days," says Hardiman, "a small town in the west of Ireland, with

a population at the time of little more than three thousand persons, beheld a sight of which but one or two similar examples occur in the entire history of mankind—a father sitting in judgment, like another Lucius Junius Brutus, on his only son, and like him, too, condemning that son to die as a sacrifice to public justice.” . . . “On his conviction,” continues the historian, “the mayor was waited upon by persons of the first rank and influence in town, and solicited to consent to a reprieve. His relations and friends joined in earnest entreaty, beseeching that his blood might not be shed, but the inflexibility of the judge resisted the supplication, and he was inexorable.” . . . “He himself descended at night to the dungeon where his son lay.” . . . “He entered holding a lamp, and accompanied by a priest (from whom the account was received), and locking the gate, kept fast the keys in his hands, and seated himself in a recess of the wall. His son drew near, and with a faltering tongue asked if he had anything to hope, he answered, “No, my son, your life is forfeited to the laws, and at sunrise you must die. I have prayed for your prosperity, but that is at an end—with the world you have done for ever. Were any other but your wretched father your judge, I might have dropped a tear over my child’s misfortune, and solicited for his life, even though stained with murder, but you must die; these are the last drops which shall quench the sparks of nature, and if you dare hope, implore that Heaven may not shut the gates of mercy on the destroyer of his fellow-creature. I am now come to join with this good man in petitioning God to give you such composure as will enable you to meet your punishment with becoming resignation.”

It was scarcely day when the expected summons to

prepare was given ; but finding it impossible to proceed to the usual place of execution, at the eastern extremity of the town (so violent were the threats of the populace, and so determined were they upon rescuing the unhappy culprit) that this virtuous and extraordinary man was driven to the dreadful alternative of executing his wretched son with his own hands. This he performed by suspending him from one of the windows of his own house, which happened to be contiguous to the prison.

The account states, "The innocent cause of this lamentable tragedy is said to have died of grief, and the father of her lover to have secluded himself from society for the remainder of his days, never having been seen again, except by his mourning family."

"Opinions," says Mr. Hardiman, "may no doubt be divided as to the cruelty or humanity of the father ; but few will question the integrity of the judge, or the equity of the sentence."

That a primitive sentiment exists, which gives an instinctive love of justice, cannot be doubted ; but, that it is not a mode of action of the organ of Benevolence, as Gall supposed, has I trust, been satisfactorily shewn. The local position of its organ has been found by Spurzheim to lie between the organs of Firmness and Caution ; and the truth of his discovery is confirmed by a vast number of incontrovertible facts.

In all those criminals, whose conduct was singularly remarkable for the absence of a sense of justice, this part of the head is very much depressed. In Steventon, for instance, who robbed and murdered an old woman on the high road, near Hereford, and was not sensible of his having done wrong, this organ was remarkably deficient. It is very small in Delahunt of Dublin, who coaxed a

child to a retired spot in the suburbs, and there cut its throat. He then proceeded to the Castle and gave information to the police that he had seen a child murdered by its own mother. He described the poor woman accurately, for she was a neighbour of his own, in Francis Street. Upon enquiring the police found that the mother was then, and had been for some time, a patient in Jervis Street Hospital. The wicked informer was detained, and very soon a woman came forward to say that as she was passing through an adjoining field she saw a young man cut the throat of a child, as pork-butchers kill pigs, and then fling him away from him, seemingly to escape getting blood upon his clothes; and she identified Delahunt as the man. Others proved that they had seen him, a short time before, giving cakes to this child, who knew Delahunt; and thus was the innocent victim induced to take a walk with this atrocious criminal. In short, the evidence was conclusive against him, and in three weeks he was hanged. He acknowledged his guilt; and said his motive for killing the child was not for any pleasure that the cruel act afforded him, but to have good ground for information against some one, in order to get into the pay of the police, and to be well fed at the Castle Station, as an informer.

So little was this culprit affected by any feeling of remorse, and so great was the quantity of food he devoured during his imprisonment, that, from being a thin, spare youth up to the time of his condemnation, he appeared remarkably fat upon the scaffold three weeks after.

The whole moral portion of this man's head is very poorly developed; but the organ of Conscientiousness is much smaller even than that of Benevolence. It is, as it were, scooped out. A like deficiency of this organ is

very marked in the casts of Bishop and Williams, who murdered many persons for the purpose of selling their bodies for dissection. In the notorious Greenacre the deficiency in this organ is very great.

Such is invariably the characteristic form of the heads of criminals. On the contrary, the same part of the head is very full and elevated in those who have been remarkable for the strict integrity of their motives. In the lofty head of Sir Walter Scott this organ is very large, and in that of the good Canova. In the fine head of Gall himself the organ of the Sense of Justice is remarkably protuberant; and his career through life has proved him to be a man of scrupulous integrity in all his actions. Let these casts be compared with that of the unfortunate Dr. Dodd, and what a contrast is presented to the observer; for the same part of the head is poorly developed in him, and for this want, a good fund of natural generosity was incapable of affording compensation. He was reckless, not for want of experience and reflective power, but from lack of caution, the organ of which is very small. He was wanting in strict integrity, not because he was deficient in generosity and benevolence, but because the organ of the Sense of Justice was ill-developed. He was the yielding victim of vicious and unruly passions on account of the smallness of the organs of Firmness and Conscientiousness, and the remarkable largeness of those of the sensual propensities. It would be tedious to accumulate evidence in confirmation of the existence and seat of this organ, which is wisely placed against the inroads of the selfish passions upon the fair domain of the moral sentiments.

HOPE.

HOPE is a faculty which exercises so much influence over our modes of thinking and of acting that it is of importance to find out whether it be a primitive sentiment or a mode of action of other powers, since its independent existence would render the presence of a part of the brain capable of manifesting it a matter of course. And, should the place of the organ be correctly defined, we could predicate with far more precision the degree of enterprise and sustained energy by which an individual would be actuated, than by considering hope to be merely a mode of action of other powers.

In the practical application of Phrenology it is of much value to know how far children are endowed with this attribute, since it is its nature to inspire confidence in the success of their endeavours. And we all know how powerfully unclouded anticipations of success contribute to invigorate the understanding, by removing that timidity which has, unhappily, too often tended to paralyse the efforts of superior intellectual powers.

Spurzheim thought that hope was a primitive sentiment, distinct in its nature from any other, and felt convinced that its organ would be found to lie on each side of the organ of Veneration. Gall, on the contrary, argued that hope was an affection of other powers, and

consequently supposed that it was wrong to imagine that a separate organ of Hope could have an existence.

Before entering upon a notice of the views of the distinguished founder of Phrenology, or the true physiology of the brain, it may be well to state that, with hardly an exception, phrenologists have acceded to Spurzheim's opinion. But in matters connected with science no man should be led away by the views of a majority, since the only source of truth and corrective of error is to be found in the facts which nature has so liberally supplied for our investigation — facts clear enough and demonstrable, but yet not so palpable as that "those who run may read." And here the necessity for caution is enhanced by the thought that one of the most scrupulous and accurate observers of facts that ever lived, namely, Dr. Gall himself, denied the existence of an organ of Hope. But then, in this case, he did not look for an organ because he had previously convinced himself by reasoning that hope did not exist as a separate elementary sentiment or faculty, and that it was nothing more than an affection of other powers, the organs of which were then in a passive state. He says, "There cannot be a particular organ for joy, or sadness, or despair, or discouragement, or hope, or any affection whatever." Before going further it were well to give Gall's ideas as to the proximate cause of the affections, and the line of distinction which he draws between them and the passions. He says, "By passion I mean the highest degree of voluntary and involuntary activity of which any fundamental power is susceptible. Each passion supposes a particular organ which produces passion as its function, only when in its maximum of activity. It is altogether different with the affections.

In the passions the organs are active, exalted in their fundamental function. In the affections, on the contrary, the organs are passive; they are modified, struck in a particular manner, agreeably or disagreeably. Modesty, terror, anguish, sadness, despair, jealousy, anger, joy, ecstasy, etc., are involuntary sensations, passive emotions, either of a single organ, or of the entire brain."

Nothing can be better than the above definition of passion; but, surely Gall was wrong in excluding terror, jealousy, and anger, from the category of the passions. Admitting them to be the result of mixed affections, it is unreasonable to think that the portions of the brain connected with the presence of these emotions, are passive or, in other words, in an inactive state. Terror, for instance, is a disagreeable affection of the organ of Cautiousness when it is excited to the highest pitch of activity. Anger is the immediate result of highly provoked organs of Combateness and Destructiveness in a state of intense action. Jealousy is, in some cases, the offspring of unrequited attachment, where reciprocal love might justly be expected, and of wounded Love of Approbation and Self-esteem, together with a tendency to view things through a gloomy medium. Now, surely, warm attachment cannot exist without certain organs of the brain being in a state of activity; nor can wounded self-love be consistent with an inactive condition of the organ of that feeling. Nor does it seem at all probable that a suspicious and desponding bias can arise if some parts of the brain be not in an active state, while the organs of the faculties, which are capable of resisting this unhappy tendency, are in, at least, a comparatively inactive condition. If, for instance, a man be ambitious of distinction and power, it is the result of active organs of

Love of Approbation and Self-esteem. Should a rival make his appearance, he is likely to become jealous; suspicion is a dominant ingredient of jealousy; and, as suspicion is the result of a highly excited organ of Cautiousness with deficient hopefulness, jealousy cannot be the result of a passive state of all the organs of the faculties which form the ingredients of that affection. Not only, indeed, is terror an active affection, it is also the instigator of other passions; and has thus been productive of great calamity, whenever nations have become subject to suspicious tyrants.

It is hard to imagine how any affection of the mind either mixed or simple, can be manifested, unless there be, at the same time, one or more organs of the brain in an active state, while some others are inactive. Modesty, for instance, which Gall numbers among the passive affections, is not the result of the inactivity of a single organ, or of the whole brain. On the contrary, it is the offspring of large and active organs of Caution and Love of Approbation, with relatively small organs of Combativeness, Self-esteem, and Firmness, while those of Respectfulness and Benevolence are large. Mental affections are the result of the action of objects and occurrences from without upon organs of the brain, through the conducting agency of the external senses, in the first instance, and are again revived by the seemingly mysterious operations of memory. All this consists of action. Would it not be to ignore a law of physiology to think that any mental affection whatever could exist without the agency of the brain; although, like joy, it needs no special organ to produce it?

Dr. Gall says, "There cannot be a particular organ for joy, or sadness, or despair, or discouragement or hope, or

any affection whatever." I have already endeavoured to shew that compound affections are the result of the workings of a number of organs in a state of action, while the organs of those emotions, corrective of such affections, are in a state of repose. Joy, on the contrary, is simple in its nature, and Gall is right in supposing that there can be no special organ for joy. Joy is a sensation experienced through any organ, while its functions are being gratified. Even through the organ of Caution one would be joyfully affected on being released from fear of danger. But the emotion of joy cannot voluntarily be revived; for it is a passive affection, while the renewal of hope is a charming and invigorating operation of volition, and is therefore an active affection.

Tried by this test, it will be seen that hope ought not to be placed in the same category with joy, exstacy, etc., and that so far from its being an affection of different powers, it is a faculty *sui generis*.

Hope has by some been considered a modification of desire. I have heard it called an excess of desire. And Spurzheim thought that Gall confounded hope with desire or want. But, so far as I know, Gall nowhere expresses himself to that effect. For, in his reflections on Will he says, "The desires, propensities, and passions are the results of the actions of isolated fundamental powers." He also says that what authors term "the feeling of desire" is the impulse that results from the activity of a single organ. But it has been just shown that he considered hope an affection and not a passion, and since he thinks that desire becomes passion when an organ is in a state of the greatest activity, it would be inconsistent in him to suppose that hope was any modification of desire. I feel perfectly assured that Gall never entertained such

an opinion, since he thought that hope was an affection of an organ in a passive condition.

But if it has been satisfactorily shown that anger, jealousy, and terror, are states of mind which result from the active condition of certain organs in the brain, there cannot be a doubt that hope, also, must be the result of the function of some part of the brain in an active state.

Is hope, then, a form of desire? Such cannot be the case, for since every faculty in a very active state desires, if hope be a modification of desire, every faculty when excited must hope. But surely hope cannot be a quality of the organ of Caution.

Place an individual in whose disposition caution is the dominant faculty in a situation of peril, and he becomes alarmed; in proportion to the magnitude of the danger will be the desire of avoiding it. And suppose he finds every avenue of escape barred against him, will not his dominant cautiousness render him still more desirous of escaping? And when desire suggested by caution is thus at its height he may cast some anxious glances around for a place of shelter, but the fair form of hope nowhere meets his eye. It is not possible that Hope which is so fascinating and attractive even when its promises are delusive, could ever emanate from that part of the brain wherein is engendered fear, which is so appalling and repulsive. There can be no relationship between them. They are altogether of a different stock.

Indeed, it is certain that desire the most ardent may possess the mind even when hope has been abandoned. A man becomes enamoured of a beautiful woman whose mental accomplishments and moral worth ennoble all her actions. He desires to be the happy partner of so much beauty and goodness, but he finds that her station in

society is so far above the path in which he has been destined to move, that his hope of being ever able to obtain the object of his pure yet ardent desire must necessarily be weak. Or suppose their rank in life to be equal, he finds that her affections have been bestowed upon another, his desire becomes hopeless, melancholy flings her dismal shroud over his bright but visionary aspirations, he abandons hope, but still clings with mad fidelity to the desire which may ultimately cause the bereavement of his senses. How often has suicide been the result of this hopeless desire. Or one may see the object of his warmest attachment passing away like a shadow from this earthly scene of mingled happiness and sorrow. All hope of recovery has fled, but yet the desire is no less ardent that the impending calamity might, if possible, be averted.

It has been said that the increasing probability of the success of desire is the source of hope. Such a prospect cheers and encourages hope, but does not constitute it. And the nearer we approach the fulfilment of our desires the less need there is of hope; when certainty makes its appearance hope vanishes.

It is obvious, then, that hope is essentially different from desire. Nevertheless, desire stimulates hope, and hope has been styled the "nurse of young desire."

There cannot, indeed, be a doubt that hope is a mental quality perfectly distinct from desire. Who could be filled with a greater desire to cast off the oppressive weight of dismal forebodings which had often darkened his bright and manly faculties, than Dr. Samuel Johnson. Yet his hope of succeeding was extremely weak. Could that want proceed from a timid disposition? No, Johnson was personally resolute and brave. Did it originate in

want of confidence in his own powers? Certainly not, for he possessed much self-esteem, and was conscious of his mental superiority. And it may be added that his intellect enabled him, in an eminent degree, to weigh the probability of success which might attend upon his desires.

Almost all will agree, whatever may be the opinion as to the erroneousness of his political and ethical speculations, that few men were more desirous of seeing mankind guided by the dictates of benevolence and justice, in order that they might become virtuous and happy, than William Godwin, and yet how gloomy were his anticipations. Perhaps not one of his works is so strongly illustrative of this as "Fleetwood;" for, notwithstanding the delightful disquisitions of Ruffigny and Mackneil in asserting the supremacy of benevolence and justice in the human character, "Fleetwood" still continues the victim of misanthropic doubts, and can scarcely be prevailed upon to indulge a hope of ever meeting with that virtuous and benign sympathy which he so anxiously desired to obtain, and the existence of which the characters of his two friends must have shown him it would be unreasonable to doubt. It may be well to state here that the part of the head in which the organ of Hope lies is considerably depressed in the casts from nature of Dr. Johnson and Godwin (see Plate 1.)

If hope then is not an attribute of different organs, either in an active or inactive state, it must be a substantive, fundamental power which requires a particular organ for its evolvment. In what part of the brain are we to expect to find this organ? In the superior region of the head, undoubtedly. For though strong hope may sometimes be the abettor of vice by enhancing the enterprise

of those who risk their reputation and fortune in order to gratify selfish and sordid appetites, we are not thence to infer that hope is of a grovelling nature. As well might it be said that the organ of Benevolence ought to lie among those of the lower feelings because it is recorded that a morbid desire to relieve distress had prompted an unfortunate man to commit robbery and even murder in order to relieve the wants of the destitute. No, the bias of hope is towards an alliance with the noblest sentiments. It encourages and sustains fortitude. It attends upon beneficence lest the open hand of charity should be withdrawn at the instigation of distrust which some instances of deception might probably induce us too generally to entertain. For hope is a foe to suspicion. It exercises a happy influence over the mental faculties. It is essentially a promoter of the activity of the other powers by habitually spreading out before our mental vision glorious and sunny prospects of future joy and success. It materially serves to loosen the curb with which doubt and timidity would impede our onward movements, and leaves the faculties to the free enjoyment of all the power with which nature may have endowed them. Hence, hope may be deemed a main-stay of enterprise. For though a man fertile in intellectual resources and, consequently, capable of devising new and seemingly effectual methods of carrying his projects to a prosperous issue, and energy and courage to contend against unexampled obstacles, will be enterprising, he may still be comparatively deficient in hope. Whenever this is the case, even slight failures and disappointments will cause depression of mind and anxiety to an extent which probably is not warranted by the disappointment. Hope conduces to a cheerful, happy, enduring, and religious frame of mind.

In every relation of life, from infancy to old age, it affords consolation. When sorrow, poverty and sickness render home desolate it is the assuager of affliction, and by its cheering promises of returning prosperity it becomes an inciter to industry. To the captive far removed from the presence of the beloved objects of his solicitude it is this delightful sentiment which affords comfort to the almost broken spirit by creating anticipations of some day seeing his prison doors thrown open and of his being again restored to joy, light, and happiness. But if he be precluded from the possibility of escape, and he finds that the remainder of his days must be spent in cheerless bondage, still it is to hope he must resort for the only balm capable of soothing the bitter wounds of sadness which in its absence might urge him to commit self-destruction, or at least leave no spot where a single ray of comfort could fall to illumine the dreary night of sorrow and desolation by which he is encompassed. It is then that hope becomes man's best and truest friend by inducing him to turn his attention from the sad realities of this life to anticipations of happiness in a world to come.

“As if even yet, through pain and ill,
Hope had not quit him, as if still
Her precious pearl in sorrow's cup,
Unmelted at the bottom lay,
To shine again, when all drunk up,
The bitterness should pass away.”

Hope has no retrospective views, nor does the present time engage its attention. To the future alone its nature seems to be adapted. Hence it is reasonable to infer that hope is an important ingredient in the mental constitution of a religious character. Yet it may be said with

truth that the great moralist, Doctor Samuel Johnson, was a religious man, although hope was a weak attribute of his character. But hope is only a component part of a religious disposition, and it was not hopefulness which characterised the piety of that remarkable man. For although his hope must have received some stimulus from his thorough and enlightened conviction of the goodness and mercy of God, it yet had not the power of filling his mind with a tithe of the confidence displayed in their expectations of future beatitude by many persons who in a moral point of view were far his inferiors (see Plate 10).

Now, this active faith and heartfelt devotion, were the result of the energy of the organs of Marvellousness and Veneration, both of which are large in the head of Johnson. But, since belief in the attributes of God and humble submission to his will, and profound adoration of his goodness may co-exist, as in the case of Dr. Johnson, with much complexional despondency; and, whereas despondency must, more or less, tend to weaken faith and devotion by laying the mind open to doubts of their efficacy, one cannot hesitate to think that hope must be an important ingredient in the composition of a pious character. For hope strengthens faith and spreads a halo of glorious expectancy around devotion. Indeed, the presence of such a primitive separate sentiment affords an assurance that there must be a hereafter to give perpetual shelter to the joyous anticipations of the human soul.

Where then, ought we to look for the organ of this primitive sentiment? Where, but among those of the moral and religious faculties. And it is strong presumptive evidence of the probability of this being the case

that the only part of the crown of the head left unappropriated by Gall, is that which lies on each side of the organs of Veneration and Firmness, and behind that of Marvellousness.

A question now arises as to whether this part be a single organ. It is clear that, if it be only one organ, its development should be uniform; that is to say, the entire space ought to be equally depressed or elevated, according to the degree of functional energy manifested by it. But such uniformity does not exist in a vast number of cases.

In the casts of Rammohun Roy and William Godwin, for instance, the back portion is large, while the front part is small. But in the cast of Dr. Dodd, and many others, the front portion is protuberant and the posterior part depressed. The function of the one must, therefore, be distinct from that of the other. But, as I trust, sufficient evidence has been adduced already to prove that the sense of justice is the function of the posterior part; and as this sentiment is often strongly manifested when the anterior portion is small, this portion must serve some other purpose. And as there cannot be a doubt that hope is a fundamental, active power of the mind, and, as it is essentially an attribute of religion, it is to be expected that its organ must lie in the vicinity of those of Veneration and Marvellousness. For it is an invariable law that those functions which are most essential to the support of each other have their organs contiguous to one another.

In strict accordance with this law of nature it is found that a full or large development of the part of the head on each side of the organ of Veneration, which, as has been already stated, occupies the place, the centre of which is

called the "fontanelle" in infants, is always found to be accompanied by a hopeful disposition. And that a tendency to despond is always the result of a poor development of the same part. There is an immense amount of recorded facts in proof of the truth of this. The part of the head then, unappropriated by Gall, is the seat of the organs of two sentiments, the one moral, the other more exclusively religious. The great deficiency of these organs in the most abandoned criminals, and their elevation and fulness in those who have been the glory of mankind, leave no room for doubting that such is their nature. But it should be observed that with large Hope there may be very little honour, if Conscientiousness be small; while a man with a small or moderate Hope may be the soul of honour. The casts of Dr. Dodd and Dr. Gall are excellent examples of this (see Plate 10, diagrams 1 & 2). In Dodd the organ of Conscientiousness is signally deficient, in Gall it is very large, while that of Hope is not so prominent. And in the cast of the late eminent engineer Bryan Donkin, the earliest supporter of Phrenology in this country, the organ of Conscientiousness is extremely protuberant and that of Hope relatively small.

Had it not been for the support afforded him by this charming sentiment, could the incomparable Tasso, with a soul full of honour and sensibility, have endured seven years' of unjust confinement in a squalid dungeon? It was hope that animated the noble soul of Gastavus Vasa, when, in the mines of Sweden, he formed the plan of rescuing his country from the dominion of tyrants, and sustained him in the forests of Delacarla, while he was striving to raise, in the midst of the greatest obstacles, that patriotic band of peasants whose devoted bravery

ultimately enabled him to accomplish the object of his perilous enterprise. Could Gustavus Adolphus, with all his courage, have ventured to volunteer his services in the cause of the Protestants of Europe against the mighty power of Austria and her allies, if Hope had not flung her protecting mantle around him? Without an ample endowment of Hope could Suwarrow have undertaken to reduce, in the space of three days, the strong fortress of Ismail, which had withstood a siege of seven months? Hope contributed much to inspire Charles the Twelfth with that heroic confidence which prompted him, at the age of eighteen, to attack, with only eight thousand men, at Narva, eighty thousand Russians. "What," said he, to one of his officers, "you doubt that with my eight thousand Swedes I can beat eighty thousand Russians?" But, although it ministered instinctively to the glory of this heroic prince, it must not be forgotten that to it also should, in some measure, be ascribed his misfortunes, since, by never calculating on the possibility of reverses, he was hurried into enterprises which a less hopeful spirit would have suggested it were madness to undertake.

The history of this extraordinary man shows that hope, when it is unrestrained by circumspection, may be the source of manifold misfortunes. It induces men to speculate beyond their means, and to indulge in unreasonable expectations of good fortune.

The organ of Hope is very large in the authentic portraits of these remarkable characters. It is very prominent, also, in those of the heroes of Copenhagen, Acre, and Plassy. The best portraits of Drake and Raleigh are very much elevated at the same part, and it is a remarkable feature in those of Bishop Ridley and

the Scotch reformer, John Knox. In Ridley it was associated with organs which rendered him mild and enduring, in Knox with such as indicated intemperate ferocity. The organ, as has been already noticed, is very large in the cast, taken after his execution, of the "unfortunate" Dr. Dodd, whose reckless desires and vain expectations, unchecked by even a moderate sense of justice or of caution, prompted him to devise schemes for their speedy gratification, which ruined his prospects, blasted his reputation, and at last led to the commission of an act for which his life became forfeited to the law.

To the sanguineness of disposition engendered by much hope and insufficient caution, unchecked by a very weak conscientiousness and but little firmness (for the organs of these faculties are very small in the cast of Dodd's head (see Plate 10), must be attributed the act which brought him to an ignominious end. For he averred that when he forged the name of his former pupil, Lord Chesterfield, he entertained the hope of being able to meet the bills himself. A forlorn hope it certainly was for a man in his embarrassed condition, with a shaken reputation. Nor is it uncharitable to doubt the honest sincerity of his expectation. It is more likely that his exuberant hopefulness and want of caution led him to trust to the charitable forbearance of his lordship.

To the last he was full of hope as to the probability of his obtaining a pardon. And when he found that his doom was inevitably sealed he evinced a lively and unflinching confidence in the mercy of God; and trusted that he should be transported from a world of woe and misery to one of happiness and joy. Once after his condemnation he said, "I am now a spectacle to men and shall soon be a spectacle to angels." And when about to

be bound, he looked up and said, "Yet I am free, my freedom is there!" pointing upwards. Such was the effect of a predominant organ of Hope, when it was allowed to revel in its own extacies, uncontrolled by caution and a due sense of justice, upon a mind characteristically open to religious impressions; though their influence upon his conduct through life was so neutralized by the unscrupulous gratification of his passions, that even in regard to his religious faith he has left himself open to the charge of insincerity. Insincere he certainly was in character, generally; but not in regard to religious faith and devotion. But the singular instability of his nature and the striking absence of moral principle, rendered him liable, even in that case, to be suspected of duplicity (see Plates 2 and 10).

How opposite in respect to hopefulness were the feelings of the wretched culprit Williams, who murdered the poor Italian boy, Carlo Ferrari, for the purpose of selling his body to the anatomists. Previous to the execution of this bad man his mind became the tenement of frightful forebodings and paralyzing despair. Nor could the soothing exhortations of the Ordinary of Newgate serve to drive from his soul the demon that was tormenting it. When approaching the place of execution he exclaimed that he felt the flames of hell at his heart. In this wretch's head the organ of Hope was very small, while that of Caution was very large.

These two cases shew that the sentiment called Hope is the one that inspires us with trust in the mercy of God. It must, therefore, be intimately connected in its functions with those of faith and devotion. And the actual contiguousness of the organs of those affections affords additional proof that such is the case. For example, in

the cast of a demonimaniac from Esquirol's collection, who had been for years plunged in the depths of agonizing despair, this part of the head was quite depressed, while it was excessively salient in the cast of another who was possessed by extreme exaltedness of religious hope. And in the casts of several other religious enthusiastic monomaniacs in Deville's collection the organ of Hope was a marked characteristic. In the finest engraved portraits of Ignatius Loyola, Francis de Sales, Vincent de Paul, of Fenelon, Gobinet, and churchmen of every denomination, eminent for their intense and hopeful piety, this part of the head is singularly elevated. And its deficiency in some faithful and eminently pious characters is attended by misgivings as to their prospects of future happiness. Such was the case with Dr. Johnson. And the young lady, whose mental despondency is mentioned in the essay on Caution, is a striking instance of the same unhappy tendency, and of the coincident inadequacy of development in regard to the organ of Hope.

In persons naturally disposed to look upon everything through a gloomy medium, and who, in their undertakings, are tormented by anticipations of disaster, and are habitually discontented with things as they are, this part of the head is relatively and absolutely small, when compared with the same part in the heads of those who never doubt of the possibility of accomplishing projects which would seem to others visionary and impracticable. In the latter category may be placed the late benevolent Robert Owen; and certainly the organ of Hope is very large in his head. It is also very large in the head of that good and amiable man, the late John Isaac Hawkins, civil engineer, who was always coming forward with some useful mechanical invention, such as pencils and

other things, from the sale of which he hoped to reap great advantage. But unfortunately others profited most by his inventions. Still he went on to the last, inventing and hoping. The same part of the head is exceedingly large in the wild enthusiast Thom, or Sir William Courtney, as he called himself, who never doubted his capacity of compelling the whole population to flock to his standard, as their spiritual redeemer. All his prospects were brightened by the unclouded rays of unflagging hope. The thoughts of Oxford, on the contrary, were gloomy, and dismal were his projects. Previous to his vile attempt on the life of his youthful, liberal, and innocent Queen, his time was spent in his apartment in drawing horrific devices in blood-red characters upon a black ground, which foreboded evil, and everything around him seemed as if the cheering sunshine of hope had never entered the place to illumine its dreariness.

In this man's head there is quite a marked depression of the part which Spurzheim supposed to be the organ of Hope. It forms a prominent feature in the photograph of the late Earl of Dundonald, as well as in the cast from nature of the fearless and enterprising smuggler, Captain Johnson. This part is large, also, in Thorwaldsen's fine bust of Admiral Lord Exmouth.

In this short catalogue of heroes may well be included the noble-minded Crillon, the favourite general and faithful friend of Henry the Fourth. In this enterprising man's portrait, engraved by the celebrated Balechou, the organ of Hope is conspicuous, although the whole upper region of the head is singularly elevated.

This part is large in the busts and portraits of the poet Moore, and moderate in the cast from nature of George Crabbe. And is not the comparative influence

of this faculty visible in the tenour of their writings? One walks in sunshine, the other in shade, but the atmosphere he moves in is so transparent that the objects he presents us with never escape our notice. For example, while Moore sings—

“They may rail at this life, from the hour I began it
I’ve found it a life full of pleasure and bliss.”

the less hopeful spirit of Crabbe prompts him to exclaim—

“No view appears
By sighs unruffled, or unstained by tears.”

In the fine original cast from nature of Sir Walter Scott the same part of the head is very large, while, as has been already stated, it is moderate or even small in the casts from nature of Dr. Johnson and William Godwin (Plate 1, Diagrams 1, 2). And do we not find, on looking over the eloquent pages of *Rasselas* and of *Fleetwood*, how deeply the mind of each of these writers was imbued with gloomy and distrustful imaginings as to the vanity of human wishes? While, on the contrary, chivalrous buoyancy and elasticity of spirit render the works of Scott, though less studiously profound, far more delightful.

It must not be overlooked, however, that with all his judgment, shrewdness of observation, and knowledge of the slips and casualties incident to the affairs of life, he surrendered himself to the seductive influence of hope. And it is highly probable that if this sentiment were far less characteristic of his disposition he would have paused before he was induced to become a party to speculations which rendered his once cheerful and happy home the abode of sorrow. Happy still was it for him to be

possessed in time of need of a lively hope, for it stimulated his native fortitude to sustain with uncommon resignation the sudden weight of bitter disappointment and misfortune which awaited him, by holding out prospects of its still being in his power to surmount all his difficulties by the untiring efforts of his wonderfully fertile genius. "Gentlemen," said he to his creditors, "Time and me against any two. Let me take this good ally into company, and I believe I shall be able to pay you every farthing." He then sat down, at the age of fifty-five, to pay off liabilities amounting to one hundred and twenty thousand pounds.

Thus does hope show itself to be a very active incentive to enterprising exertion. But it is only an incentive, for in the absence of an adequate amount of self-reliance and courage a man with strong hope will hope on to the end and yet attempt to do very little, while a man of great courage and self-reliance, with a comparative deficiency of hope, will be inclined to increase his exertions in order to provide against disappointments, with anticipations of which he is, through the relative weakness of hope, rendered unhappy.

Those unhappy persons who have been the victims of a suicidal tendency without any rational, ostensible cause, are always endowed with a poor development of this part of the head. And instances are recorded of lesion of the brain occurring exactly at the part called the organ of Hope in persons whose lives were rendered completely miserable by hopeless and needless despondency. The case of the Reverend William Walford, of Uxbridge, is a striking illustration of this. I shall, therefore, give a few extracts from a memoir of him.

"His affections," says a pupil of his, the Reverend William Froggatt, "were deep seated, and did not play

on the surface of his character with the winning blandness which renders some happily attempered spirits so attractive. An impression of reserve and austerity was the one generally produced on the minds of his pupils at their first acquaintance with him. . . . But his feelings were really much warmer than they seemed. When his friend, the late Mr. Phillips, of Harpenden Grammar School, died, he could not restrain his grief before the students, and wept for him as a brother for the most beloved of brothers. A domestic sorrow would pierce him deeply. . . . He generally shunned, I think, rather than sought any private communications with us. If we met in the college grounds, which was but seldom, there was a self-absorption in his air and salutation which indicated that he would rather have avoided the casual rencontre. At dinner, the only meal he partook of with us, and that very irregularly, for he sometimes did not join us for weeks together, he did not converse much." After praising his tutor as a man of pre-eminently sterling worth, Mr. Froggatt says—

"I have merely just referred to the fact of his being constitutionally subject to morbid feeling. This, I believe, was unknown to the students of my time. But, shortly after my leaving college, his intimate friend the Rev. Mr. Ward, of Stowmarket, informed me that he suffered habitually, sometimes intensely, from this cause, and that on one occasion, when expressing his admiration of some natural scenery through which they were riding, his afflicted friend replied that it was all dark and cheerless to him, and that there was not a single point in creation to which he could look with comfort. The same gentleman told me, moreover, that in order to keep his mind rightly balanced, and on peaceful terms with the divine

government, Mr. Walford found it necessary to read 'Butler's Analogy' about once a year. . . . I did not see my revered tutor again till the end of the year, 1829, when he had been prostrated by grief for the death of his only daughter, aggravated by his constitutional malady, I found him wasted and sorrowful to a distressing degree; and on hearing me mentioning some gratifying and hopeful circumstances in my then approaching settlement over a church, he contrasted mine with his own lot, which he assured me was about the limit of endurance."

Mr. Walford's biographer, Mr. Stoughton, to whom this letter was written, says, "Nor, should it be forgotten, in estimating his moral worth, that there were physical causes of a peculiar kind, insidiously at work in his system throughout life, most painfully affecting his entire history. He who 'knoweth our frame, and remembereth that we are but dust,' has, we may rest assured taken this into account in his judgment of the departed; and it would be flagrantly inequitable in us to forget it in the estimate we may venture to form of his character."

Such is the charitable asseveration of a divine and a scholar who felt convinced that the diseased manifestations of Mr. Walford's mind were the result of physical causes. What then were these physical conditions?

At the *post-mortem* examination on June 27, 1850, conducted by Messrs. Macnamara and Rayner, surgeons, Uxbridge, it was found that "On opening the head the *dura mater* was found so firmly attached to the bone at two points as to be incapable of separation without being torn. Those two points were—one near the superior and anterior angle of the right parietal bone, the other at the superior and posterior angle of the left parietal bone. They were marked on the internal surface of the

bones by deep depressions having a sort of honey-combed appearance, but not carious. The outer table of the scull alone remained at these parts, and its thickness scarcely exceeded stout letter paper, the size of both depressions were nearly the same, about an inch long by three-fourths of an inch in breadth. The colour of the brain under the first point was different from all its surrounding surface; it had assumed a green tinge similar to long retained pus. This did not extend more than a quarter of an inch into the substance of the brain. There was no discolouration of the brain at the second point, nor was there elevation of the surface at either; the depressions in the bone were from thickening of the *dura mater* in those specified localities. The *dura mater* throughout its whole extent had lost much of its proper vascularity, and assumed a thickened yellow, leathery appearance. Over the whole surface of the brain there was considerable serous effusion; the ventricles were full of water, there were no signs of recent inflammatory action, but there were several points of unnatural adhesion of the membranes, denoting former existence of an inflammatory state." . . . "The valves of the heart were sound; the aorta was fully one-half larger than natural, and at its origin from the heart was an almost continuous circle of ossification. The whole inner surface of the left ventricle and of the arch of the aorta had a deep red colour like inflammation, but there were no enlarged capillary vessels to be seen. The pericardium contained an ounce of water."

Notwithstanding the length of this quotation I cannot deny myself the pleasure of quoting one or two remarks contained in a letter from Dr. Whiting, of Lyme, to the son of Mr. Walford upon the statement of the surgeons

of Uxbridge. "The lucid statement," says Dr. Whiting, "of the appearance of the corpse on inspection, gives proof of a most satisfactory cause having existed of a physical character for the distressing mental malady which darkened many of the days of your dear father's life." And again he says, "The part of the head where I expected this change of structure might be found, corresponds with the anterior central point of disease mentioned and so well described by Messrs. Macnamara and Rayner." Dr. Whiting's accurate conjecture in this case is evidently the result of his acquaintance with the works of Gall and Spurzheim, and of his conviction of the soundness of their views regarding the functions of the brain. For the fact to be borne in mind here is this, namely, that the disorganization of the brain, near the anterior superior angle of the right parietal bone embraced the convolutions which constitute the organ of Hope, solely, and that the diseased condition of those lying beneath the posterior superior angle of the left parietal bone affected those of the organs of Attachment and Inhabitiveness, and thus probably trenched upon Philoprogenitiveness. And that the intensity of Mr. Walford's grief at hearing of the death of his friend, and his utter prostration of spirit when his only daughter died, as well as the dreary, painful mental despondency with which he was habitually, and without any assignable cause, afflicted, and which even threatened to blot out every prospect of happiness hereafter, and, maybe, had spread the cheerless film of doubt as to a future existence over his mental vision, are physical and moral coincidences which afford most interesting corroborative attestation as to the truthfulness of the foundation upon which the science of Phrenology rests, and, in this case,

of the existence of a special faculty called Hope, and the true position of its organ.

I am here reminded of a gentleman, possessed of an independent fortune, in whose head the organ of Hope was small. He was active, energetic, industrious, clever, and ardent in pursuit of the object he wished to accomplish. He was habitually very sprightly and animated in his manner.* He loved his friend and would do a great deal to serve him, without expecting a return. He was married early and had sons, one of whom was almost his idol. This child was never happy but when he was with his father, and the father could not feel comfort unless the child were near him. Unfortunately this boy died of diphtheria when he had reached his seventh year. From that time the father's usual energy failed him. He neglected to take proper sustenance. Sometimes he would abstain from food for days together. Tobacco he then smoked to excess, and it seemed to be his only comforter. He pined away in this manner for a considerable time, every day becoming thinner. No reason that could be adduced helped to cure his despondency; for he thought he was to blame for not having the advice of the late Dr. Todd, in the first instance, instead of trusting to the ordinary medical attendant; and he therefore felt that he was accessory to the child's death. No persuasion could remove from his mind this unanswerable fact, as he termed it. This continual despondency so worked upon his mind that in a state of excitement, caused by something which greatly disturbed him, he committed suicide.

The part of the head, which I am now considering is

* His organ of Mirthfulness was very large.

very small in the cast of William Mears (the brass founder, in the employment of the late eminent practical Phrenologist Mr. De Ville), whose case has been noticed, when treating of combativeness.

But though persons naturally disposed to fall into a state of despondency would be likely, in very agitating circumstances, to entertain thoughts of getting rid of their misery in this way; still active benevolence, true piety, and the absence of self-will will always prove to be influential correctives of such unhappy suggestions. Nor is it to be inferred that all those who destroy themselves are deficient in the organ of Hope, since men the most enterprising and heroic, "who felt a stain like a wound," have resorted to this dreadful alternative, rather than endure the infliction of what they felt to be unmerited disgrace. The great Lord Clive is an instance of this. It has been said that self-destruction is a cowardly act. But the instance I have just given shews that it is not necessarily the act of a coward.

How opposite was the resolution of the benevolent, magnanimous, and unselfish Scipio, when accused of the same kind of political peculation by the bitter tongue of the iron-minded Cato. And it may well be supposed that the hopeful, heroic Clive would have held on like Scipio, if his mental faculties had not lost their healthful balance.

The name of Scipio calls to mind the strong and interesting testimony, afforded by the sculptured remains of antiquity, as to the uniform connection between the primitive sentiment of hope and the part of the brain called the organ of that sentiment.

The most unpractised eye cannot but be struck with the remarkable saliency of the organ of Hope in the bust of Scipio Africanus, the Elder. And was not the generous

character of Scipio unsullied by the slightest tinge of constitutional suspicion? In his mortal enemy Cato, on the contrary, the same part of the head is not well developed; and his whole conduct affords strong evidence of his being instinctively swayed by a singularly mistrustful disposition. He would not have a physician to attend his family, because all the physicians of his time in Rome were Greeks; and he distrusted them so far as to think them capable of poisoning a Roman. The contrast between the busts of these great men in the region of Hope is indeed very remarkable. And the disparity is no less striking between the authentic bust of Cato of Utica and of the busts of the man he hated most, the great Julius Cæsar. With his many good qualities Cato suspected every man of evil intentions whose political views differed from his own. Cæsar never suspected any one, not even his bitterest enemies. It was his great perspicacity in fathoming the real designs of his enemies that put him on his guard, and not a natural tendency to give way to suspicion. Indeed, he lost his life by his indisposition to distrust even those against whom he was warned. Compare the busts of Zeno the Stoic and Horace the Epicurean, with respect to the elevation of the part which constitutes the organ of Hope, and how great is the disparity. Illustrations might be multiplied to an immense extent; but, a sufficient number has been already adduced to shew how necessary it is for those, who hope to gain scientific credit by opposing Phrenology, to examine Nature on these points for their own sakes.

It may be well to add that the skulls of aboriginal races of men display great differences as to the fulness of the region of Hope. In the Australians, Tasmanians, and

Esquimeaux, it is small. It is fuller in the North American Indians, and still more so in such of the Sandwich Islanders as I have seen. It is not generally a strongly marked feature of the Maori skull, of which I have seen many. It is very salient in all the skulls and casts of skulls that I have seen of Peruvians of the Inca race. In the skull of the devout priest in Egypt already mentioned, who was the honoured friend of Denon, the organ of Hope is very large, and its happy influence on his character was strikingly manifested.

Sufficient reason has now been given to show that hope cannot be a quality or mode of action of any other primitive faculty, or association of faculties, although the intensity of the affection must of course be modified by diversities of combination. Nor can it be reduced to the shadow of a shade by supposing that it is a passive affection of a portion or portions of the brain. On the contrary, it is a simple elementary substantive power, essentially connected with religion and morality. And abundant instances of well-authenticated facts have been brought forward to prove, both positively and negatively that the position assigned to the organ by Spurzheim is undeniably correct.

How admirable is the personification of hope in the following stanza from the "Fairy Queen"—

"With him went Hope in rank, a handsome maid,
Of cheerful look, and lovely to behold;
In silken samite she was light arrayed,
And her fair locks were woven up in gold;
She always smiled, and in her hand did hold
A holy water sprinkle, dipped in dew,
With which she sprinkled favours manifold
On whom she list, and did great liking shew,
Great liking unto many, but true love to few."

MARVELLOUSNESS.

HAVING found it necessary, when treating of veneration, to make some remarks upon the nature and function of Marvellousness, in order the better to understand the peculiar attributes of the former and the place it holds in the composition of a religious character, it will now be proper to notice, briefly, the mental manifestations which are characteristic of the latter faculty, when it is not acting in unison with veneration.

This sentiment, when very energetic, has been the source of that ready credence which has been given in every region of the globe, and at all periods of the history of mankind, to the existence of powers which exercise a supernatural influence over our destiny, and the origin of which it was beyond the most acute and comprehensive intellect to discover.

It is obvious that a tendency to believe in supernatural agencies must proceed from a primitive faculty of the mind, and cannot be merely the result of education and habit, although these would certainly increase its intensity. For we find that men renowned for intellectual superiority have been led into a belief in the existence of supernatural objects. In what way, save by the admission of the existence of such a fundamental power of the mind, can we account for the absurd credulity of Dr. Johnson regarding the possible truth of

the Cock-lane ghost story. Neither his education nor his intellect, which was so critical and penetrating, were at all favourable to his falling into so preposterous a supposition. Neither did he live in an age remarkable for the prevalence of superstition. Indeed, so powerful is the influence sometimes exercised by this feeling over minds of the most extraordinary intelligence and goodness that we find Socrates, who, during a long life, had devoted his great and generous mind to the moral regeneration of his countrymen, and whose energies were directed to the inculcation of a belief in the existence of one supreme, all-wise intelligence, could not entirely divest himself of a belief in the efficacy of sacrificing a cock to Æsculapius. Napoleon believed in lucky days. Cromwell was visionary and fanatical. Wallenstein was an enthusiastic astrologer. The brave and high-minded John, Duke of Bedford, the glory of England and terror of France, during his regency, did not escape being affected by the superstition of the age in which he lived. This is evident from one of his own letters in Rymer X, in which he ungallantly and ungenerously styles Joan of Arc, the enthusiastic patriot maid, "A disciple and lyme of the fiende, that used fals enchauntments and sorcerie."

It is in the morbid manifestations of this sentiment that the strongest evidence is found of its existence as a primitive mental faculty, since, in such cases, delusions of this nature cannot be the result of sinister or hypocritical motives. Did not the amiable and sublime Tasso, in his moments of aberration, imagine that he was conversing with a familiar spirit. That original genius, Blake, the engraver and poet, was signally affected by a similar delusion. William Sharp, also, the great engraver, has left two fine prints, one of Johanna Southcote,

the other of the self-styled prophet, Richard Brothers, because, as he said, he placed perfect confidence in their divine mission. Beneath the portrait of Brothers, who called himself Prince of the Hebrews, are the following words—"Fully believing this to be the man whom God has appointed, I engrave his likeness—William Sharp." That most profoundly intellectual, moral, and religious philosopher, Emanuel Swedenborg, retained, until his death, a thorough conviction that he had been admitted into the world of blessed spirits, the mansions of which he describes with gorgeous particularity. The great energy of this faculty was strongly marked in the conduct of the late Reverend Edward Irving, and the power which he possessed over the minds of many well-educated and intelligent individuals showed its prevalence, and its tendency when not kept within the just bounds of reason. But it is thought that he was himself, though naturally impressed with a strong sense of the marvellous, far from any wish or even tendency to countenance, if he could help it, the extravagant delusions of some of his followers, and it is said that the superior mind of this upright, single-hearted man broke down when he felt the effects of the flame which his eloquence lighted in minds too weak to form a correct judgment as to the scope and bearing of his doctrine. The extraordinary authority held over his unthinking votaries by the selfish and impious impostor, Robert Mathews, who was tried in 1835 at New York for the wilful murder of one of his deluded followers, Mr. Pearson, a wealthy merchant, in order to possess himself of the property which he knew that gentleman had the folly to settle on him, is an instance of the danger to which individuals and society are exposed from the predominant activity of this feeling.

This man exercised the cruellest tyranny over his victims, who bore it all with the greatest humility, believing that he was the divinity.

How strong was the delusion, caused by the undue activity of this faculty, among hundreds of the poor people of Kent, when the madman Thom, or Sir William, Courtney, as he called himself, led them to believe that he was the Messiah. When the military, under the command of Lieutenant Bennett, were approaching to arrest him, at the head of his followers, he deliberately shot the young officer, and was immediately after shot himself. Is such egregious folly as those country people were guilty of to be attributed entirely to ignorance? No, for though Thom's disciples were for the most part illiterate, those of Mathews belonged to persons in a higher and wealthier position. See the binding influence held by Brigham Young over his enthusiastic votaries; and how extensive is the unhallowed sway exercised by this self-styled prophet of the Salt Lake over his devoted subjects. But the permanency of such influence no doubt depends in some measure upon the rare administrative talents with which this singular man is said to be gifted.

Ignorance has been called the parent of superstition. But these cases shew that that cannot be its genuine source. It fosters but does not beget it. It may be said that superstition is the result of a faulty education—that a belief in the mysterious was originally instilled into men's minds by a crafty priesthood, in order the more easily to practice on their ignorance and credulity. But how were the first promoters of a belief in the mysterious to know the proneness of the human mind to dwell upon supernaturalities? How, but by the inward consciousness that instinctively informed them of the existence of such an

affection in themselves. But for this instinctive consciousness of the natural aptitude of the mind for the reception of mysterious revelations no attempt could have been ever made to scatter the seeds of superstition upon a soil unsuited to their reproduction. Education, habit, and example will draw out and strengthen a faculty which already exists, but of course can never originate one. Neither can they do much towards the practical efficiency of any mental power, which is naturally very weak or borders upon idiocy.

The fundamental nature of this sentiment is further established by the well-attested fact that its energy is always in accordance with the development of a certain part of the brain, which can be indicated with exactness on the head. Its convolutions run into those of Veneration and Hope. And it may here be observed that it is the strength and harmony of these three organs which constitute genuine religious tendencies ; no matter of what denomination an individual's profession of faith may be. For instance, in the casts of the great sculptors, Flaxman and Canova, who manifested through life exalted religious feeling, the one as a Swedenborgian, the other as a Catholic, these organs are very large ; while they are small in Sharp's fine print of Tom Paine. Or if the head of Fenelon, by Audran, be compared with that of Cardinal De Retz, by Nanteuil, the former will be found very elevated, the latter comparatively depressed, at the seat of Marvellousness. In the portraits of St. Francis De Sales, Loyola, Gobinet, the Borromeos, and others, remarkable for the fervour of their faith in mysterious revelations, the same part is singularly prominent. In the head of Jacob Boehem, the German visionary, the organ is so large that it amounts to distortion. In the

cast of the head of Thom, or Courtney, the Kentish fanatic, the development is very protuberant, while the organ is small in the cast of Carlile, who suffered as has been already stated, ten years' incarceration on account of his constant and obstinate promulgation of infidel doctrines. In the fine portrait of the celebrated Sir Kenelm Digby, by Vandyke, the organ is very large, while it is small in the portrait of Thomas Chubb. Digby became from conviction a convert to the Roman Catholic faith; Chubb was the author of "The Supremacy of the Father Asserted," and "A Discourse on Miracles;" both of which had a leaning towards deism. This part of the head is exceedingly prominent in the portrait of Dr. Cogan, the author of "Ethical Questions," who denies the necessity of the reasoning faculties in searching after metaphysical, that is to say, spiritual, moral, or religious truths. These, he says, are to be discovered at once by inward and infallible sensations; and our intellectual faculties are to be rejected as impertinent, intrusive, and dangerous.

A friend once told me of a maniac, who imagined that he held conversations with spirits of the air, and who was frequently seen in the attitude of listening to the delightful harmony of their voices descending from above. On being asked how he heard them, he said, "I perceive them here," pointing to the upper lateral part of the frontal bone. Jonathan Martin, who fancied that he had been prompted by some mysterious monitor to set fire to York Minster, complained of severe pain in his head, just above the temple, and pointed exactly to the situation of the organ of Marvellousness, which is abnormally developed in his portrait.

One of the qualities, which always accompanies a large development of this part of the head, is a relish for won-

derful and romantic descriptions, or artistic delineations, according to the bias of the intellectual faculties either towards literature or art. And it is very apt, when characteristic, to render men somewhat too credulous in regard to new things which are of an extraordinary character.

The organ is very large in the cast of the head of Mr. Greaves, one of Mr. Irving's congregation, and very moderate in the cast of Robert Owen. It is much larger in the cast from nature of Sir Walter Scott than in that of George Crabbe, although it is very well developed in the latter celebrated poet. The minds of both were eminently observant. They were not at all affected by metaphysical tendencies. Yet, it is certain, that Scott was much more influenced by a love of the marvellous than Crabbe. In the cast from nature of Fuseli, the painter, the organ is very salient; and we know how strongly impregnated his works are with qualities originating in his inordinate love of the wonderful. The same part is large in Flaxman; but in him it was under the guidance of a far more gentle and graceful nature. The same part of the head is very large in Bonasone's portrait of Michael Angelo. It is very large in those of Tasso and Ariosto, of Shakespeare and Spenser. The organ is large in the portraits of Wallenstein and Gustavus Adolphus, and very moderate in Frederic the Great. It is much more strongly marked in Charles the Fifth than in the Prince of Orange. And the same part of the head has always been found to be small in those criminals who could not be brought to recognize the truth of the mysteries of revelation. The organ of Marvellousness is, beyond doubt, fully established.

IDEALITY—SENSE OF THE BEAUTIFUL —THE POETICAL SENTIMENT.

HAVING had a vast amount of evidence, confirmatory of the truth of Gall's discovery, regarding the existence of a special organ in the brain, which is an essential element in the composition of a poet's mind, pass through my own hands, I am bound to declare that the upper portion of the temple, as Gall has indicated, is conspicuously developed in all poets remarkable for the fire and enthusiasm of their genius. And, as a strong negative proof of the correctness of his conviction as to the existence and seat of the organ of Poetry, as he has named it, it may with certainty be averred, that it is but moderately developed in the heads of those who, if they do not absolutely dislike poetry, are certainly free from any prepossession in its favour.

But, notwithstanding all this, it would be a great mistake to suppose that an ample development of this part of the head must, necessarily, be accompanied by poetical talent, or even any capacity for the composition of poetry. Still, though the function of this organ does not embrace talent for poetry, the poetical bias cannot exist without it; for poetical enthusiasm will be felt in the presence of what is beautiful in nature and in art more intensely by persons possessed of an ample endowment of this organ than by

others who are less highly favoured in that respect, but who are, nevertheless, more capable of displaying talent for poetry.

Indeed, to call it the organ of the talent for poetry would be to attribute to it a far more extensive sphere of action than this faculty really possesses. Nor does the term Ideality, proposed by Spurzheim, sufficiently indicate its function. It would give a more correct idea of its nature to name it the organ of the poetical bias. And, as it is the peculiar attribute of poetry to exalt and refine all the other faculties, by investing them with the charms of beauty, elegance and grandeur, it follows that a sense of the beautiful, the elegant, and the sublime is its primitive function.

It is, also, characteristic of the true poetical disposition to feel dissatisfied with mere matter of fact descriptions of the every-day occurrences of life. The poet, therefore, without departing from the actual realities of nature, loves to place them in new and unexpected lights; and in proportion to the inherent strength of this faculty will be the desire to adorn even ordinary subjects with the graces of originality; for this sentiment is not satisfied with mental efforts that are merely imitative. It imparts a creative tendency, but it cannot confer creative power; unless it be accompanied by a fine development of the organs of the affective and intellectual faculties.

The love of seeing the productions of the human mind clothed in the fascinating garb of poetry is the special attribute of this sentiment, without reference to the particular medium through which they may be manifested; whether it be the noble thoughts of Homer and Sophocles, of Shakespeare and Dante, of Michael Angelo and Raphael, of Handel and Mozart, or of the men who have left

St. Peter's as a monument of the union of this sentiment with the mechanical and artistic faculties which are adorned and elevated by it.

The love of the beautiful and the perfect then is the special function of this portion of the brain, without reference to the particular medium through which the sense of beauty may manifest itself, whether that be poetry or prose, music, sculpture, painting or architecture. For we find the organ of "Ideality," as it is now invariably called, large in the portraits and casts of those men, whose works are deeply imbued with the mental qualities just named; and which are the invariable accompaniments of a full development of this part of the brain. While it is comparatively small in those who cannot appreciate poetic beauty, and moderately developed in those authors whose works, however great they may be in other respects, are devoid of that charming glow and enthusiastic exaltation of ideas by which true piety is characterized. The style of the celebrated philosopher Locke may be regarded as a fine specimen of the last class of writers. His works are deficient in that glowing spirit of poetry which adorns the intellectual conceptions of Bacon and of Burke, though these are divested of the charms of verse. Are we, then, justified in supposing this organ to be essential to the due appreciation of whatever is beautiful, and as far as can be, perfect? Few men could evince keener sensitiveness as to the beauty of virtue than Locke, and yet the organ of the sense of the beautiful was not at all a salient feature in his head. But he possessed a superior endowment of the moral and intellectual organs. And as righteousness and mercy are intrinsically beautiful, the organs of these sentiments must be competent to appreciate moral beauty and

excellence, without the aid of Ideality. And should the intellectual powers of a man, thus morally organized, enable him to communicate his ideas to others, he could, assuredly delineate the forms of moral beauty with accuracy and with force ; but still, without a fair endowment of the organ of Ideality, the picture would be wanting in that gracefulness of outline and fascinating glow of colour and enthusiasm of manner which the ample possession of this organ can alone enable an author to display.

Such is the species of beauty which this organ only is capable of appreciating. It is that which adorns the intellectual creations of Bacon and of Jeremy Taylor, of Milton and of Burke. Contrast the style of these great writers with two others who also displayed extraordinary intellectual powers. I mean Dean Swift and William Cobbett. Swift could undoubtedly give a powerful and minutely graphic description of Satan, and descant with rare perspicacity and eloquence upon the Paradisical state of our first parents. But it is not assuming too much to say that his description, however powerful it might be, would manifest but little of that sublimity which casts such an air of grandeur around Milton's portrait of Satan ; nor would his representation of the garden of Eden be marked by that exquisite beauty of sentiment and gracefulness of style which characterizes Milton's delineation of the happy primeval state of Adam and Eve. Or suppose that Cobbett were to attempt a description of the Carnatic and the devastating of it by Hyder Ally, or endeavour to portray the charms and heartrending misfortunes of Marie Antoinette, would not his narrative fall far short of the appalling sublimity of Burke's description of the one, and the affecting pathos, beauty, and chivalric devotion evinced in his

delineation of the other. There cannot be the slightest doubt of the fact that the predominance of the organ of Ideality in the heads of Milton and Burke, and its characteristic scantiness in those of Swift and Cobbett, caused this vast difference in their styles of writing. This organ is large in the busts of Byron, by Thorwaldsen and Bartolini, and also in the best portraits of him. In the mask from nature of Wordsworth, and in his bust by Chantrey, the organ is very large. It is not so marked a feature in the casts from nature of Crabbe and Scott.

Supposing the view taken of the function of this organ to be true to nature, it should be inferred that the faculties of the two latter would necessarily evince less of the enthusiastic characteristics of poetry than those of the former. And is not this undoubtedly the case? For, notwithstanding Scott's great descriptive power, extraordinary knowledge of character, and rare dramatic genius, in all of which he was at least Byron's equal, he yet must be considered inferior to him in that peculiar endowment which is the essence of the poetical temperament.

The contrast is still more observable in the works of Wordsworth and of Crabbe. This is shown even in the choice of their subjects. Wordsworth's "Excursion" evinces the predominance of the contemplative and ideal faculties, and is a noble monument of the poet's philanthropic disposition, set forth in language full of beauty and of power. A somewhat visionary thoughtfulness and pensive serenity are characteristic of the entire poem, heightened and beautified by a copious yet tranquil stream of poetical sentiment, the source of which is to be traced to his large organ of Ideality. He chose the character of a recluse, and laid the scene of his poem in

the midst of a secluded and romantic country. Crabbe, on the contrary, found fit subjects for his muse in the misery and degradation of the parish workhouse, and displayed extraordinary power and eloquence in laying bare the practices incident to the various trades and professions pursued by the inhabitants of a borough. Few men ever equalled Crabbe in the faculty of describing, with vividness and truth, the tide of wretchedness which is sure, sooner or later, to overwhelm those who stray from the paths of rectitude. Nor, in delineating the fall of innocence and virtue through the insinuating wiles of selfishness and hypocrisy, would it be easy to point out his equal in force, simplicity, and pathos. But yet he was comparatively wanting in that peculiar kind of imaginative faculty which was so characteristic of Wordsworth's genius, and which nothing but a large endowment of the organ of Ideality can enable anyone to display. It is said that Crabbe's judgment held his imagination in check. But Wordsworth, also, possessed much judgment, and was characteristically reflective, yet the pure poetical temperament, which is the constant attendant upon a large development of the organ of Ideality, even when it is associated with but a small share of talent, was a distinctive peculiarity of his mind. The comparative want of prominence with regard to this mental characteristic in the style of Crabbe should therefore be considered the result of a relatively moderate endowment of this faculty rather than of an ample one, controlled by a severe critical judgment. In every intellectual effort the predominant faculty is sure to hold a conspicuous position. Crabbe himself somewhere says—

“ We cannot Nature by our wishes rule,
Nor, as we will, her warm emotions cool.”

How admirably do the forms of the heads of these highly distinguished poets accord with their intellectual manifestations. In both, the organs of the intellectual powers are largely developed, but in Wordsworth, as has been already stated, the organ of Ideality, which has a tendency to withdraw the mind from the habitual contemplation of the ordinary affairs of life, was very large, whilst in the head of Crabbe it is by no means characteristic. Yet Crabbe was a great poet. Lord Byron himself called him—

“Nature’s sternest painter, yet the best.”

And again he says—

“With Crabbe it may be difficult to cope.”

As a striking contrast to the large and finely-balanced intellectual organs of Crabbe and his comparatively moderate Ideality may be adduced a cast of the head of a poor man named Fletcher. In this man the organ of Ideality was very protuberant, and he had rather quick powers of perception, but the organs of the reflective faculties were small. He contented himself with rhythmical descriptions of the contents of warehouses to suit the purpose of advertising tradesmen.

Here are two marked instances which tend to prove that the degree of talent for poetry should not be predicated from the presence of a large organ of Ideality alone, without paying attention to the general form of the head. But in the case of Fletcher, a strong fact is afforded in proof of its being the faculty which gives the poetical bias or tendency. And, had his mind been more contemplative, he would not, even in his necessities, have confined himself to such subjects as engaged his

attention. But even in these unfavourable subjects the disposition to embellish, to adorn with grace and beauty things paltry in their nature was evident.

With regard to Crabbe it would be hazardous to affirm that such a genius as he could not write an imaginative and florid poem if he pleased, but, judging from the form of his head, such a mode of composition would not be natural to him. Nor would it be persevered in with satisfaction to himself. It was not his tendency to soar into the region of things visionary and conjectural. The saddest realities of life were the chosen subjects of his muse, of the peculiar strength of whose wing he in the uncommon clearness of his understanding formed an estimate, such as would be come to by a skilful Phrenologist after a careful survey of the genuine cast of his head.

The commanding influence of this faculty was strongly manifested in the writings and conversations of the poet Coleridge. And the organ, now under consideration, is very large in the genuine cast of his head. His intellectual characteristics differed much from those of Wordsworth and of Crabbe. In the brilliancy of his poetical imaginings he far surpassed the latter; but with all his great intellectual capacity he was not perhaps Crabbe's equal in real knowledge of mankind, or in the ability to concentrate all his intellectual forces upon the points which were the most likely to illustrate or establish his purpose, so as to make others understand it. The absence of Coleridge's superb imagination left Crabbe's superior common sense unobstructed in the display of its power; while its presence so abounding and gorgeously displayed by Coleridge, marred the worldly success which so great an intellect as he was endowed with could other-

wise scarcely fail to attain. In the forehead of Coleridge there are striking indications of a tendency to indulge in metaphysical speculations that are somewhat visionary and vague.

The organ of Ideality is much larger in Reynold's portrait of Goldsmith than in the portraits of Dr. Johnson by the same great painter; and there cannot be a question of Goldsmith's superiority as to poetical genius. Even his prose works are replete with that peculiar grace and elegance with which this sentiment when active is sure to invest every production of the mind. "*Nihil tetigit quod non ornavit*," was part of the glowing eulogy passed on him by Johnson himself; who, notwithstanding his great intellectual resources, both natural and acquired, and his extraordinary powers of composition, was not remarkable for the qualities which accompany an ample development of this organ. In the mask of his friend Edmund Burke, and also in the portraits of him, this organ is extremely prominent; and the gorgeous manner in which this faculty displayed itself in his speeches and writings has contributed, with a surprisingly capacious intellect and noble sentiments, to place British eloquence on a par, at least, with the finest productions of Greece and Rome. In the masks of Pitt and Fox the organ is by no means so prominent as it is in Burke. It is very large in Chantrey's fine bust of John Philpot Curran and Lawrence's picture of him. In Nollekens' bust of Lord Erskine it is not salient, while in the bust, by the same artist, of Lord Mansfield the organ is very large. In accordance with phrenological laws we should expect to find the true poetical element pervading the speeches of Mansfield, Burke, and Curran much more profusely than those of Pitt, Fox, or Erskine. And such was undoubtedly the

case. Of Mansfield it was said by Pope, "How sweet an Ovid was in Murray lost." And Byron emphatically said, "Curran—Curran's the man! I have heard him speak more poetry in an hour than I ever read or heard."

Hence it is manifest that neither rhyme nor metre are necessary for the display of poetical ideas; although the musical cadences of verse heighten their effect and are best adapted for their display. In a prose version of the writings of Shakespeare, Spenser, or Milton we should not be at a loss to discover the "*Disjecta membra poetæ*." It is this faculty pervading the "*Telemachus*" of Fenelon that has entitled it to rank among the most admired epic poems. It cast a lustre of grace and beauty around his amiable and noble sentiments. And in natural accordance with this fact, we find the portraits of this ornament of human nature, engraved by Audran, Drevet, and Fiquet, from two different pictures by Vivien, that the organ of the poetical sentiment was one of his most marked cerebral characteristics.

This organ is strikingly developed in Chaucer, the father of English poetry. He was pronounced by Hazlitt, an excellent critic, to be one of the four greatest poets of England, and Sir James MacIntosh considered him, if not the greatest poet, at least the greatest poetical genius, with the single exception of Dante, that had appeared since the days of Lucretius. It is a marked feature in the portraits of Sir Philip Sydney, whom Queen Elizabeth called the "jewel of her time," and in those of Henry Howard, Earl of Surrey, the gallant victim of her tyrannical, pitiless father. Surrey was the best poet of his time, and the first refiner of English verse. Sydney was celebrated for the tender gracefulness of his writings

and the poetical cast of his ideas, which showed itself in all his actions. It is large in Vertue's print of Spenser, and in the little profile of Ariosto, by Enea Vico, from a contemporary medallion by Doni, the organ of Ideality is very large. The same part of the head is immensely developed in the mask of Tasso, taken after death. And it is only necessary to glance at the masks of Canova and Flaxman, when side by side with those of Cromwell and Napoleon, in order to see where the spirit of poetry was most abundantly bestowed. Not that there was any marked deficiency of the organ in either of the latter. But it was not a characteristic feature. In Faithorne's and Vertue's prints of Milton the organ of Ideality is largely developed.

The same part of the head is extremely protuberant in the only portraits of Shakspeare that have any pretensions to authenticity, namely, the old print by Martin Droeshout, published in 1623, which was highly commended by Ben Johnson, and the monumental bust at Stratford-on-Avon, which, according to Leonard Digges, was a well-known object seven years after the poet's death.

In all those men, who in the absence of every advantage of birth and education have gained considerable poetical reputation, the organ of Ideality is characteristically salient. Such is the case in Bloomfield, the Suffolk shoemaker poet, in Clare, the peasant poet of Northamptonshire, in Elliott, the corn-law rhymers, in Hogg, the Ettrick shepherd. And it is very large in the scull of Robert Burns, the prince of peasant poets. It is large also in the authentic portrait of Carolan, the last of the Irish bards. But in this case the organ of music shines out with paramount lustre, while in the scull of Burns that of Ideality is much more conspicuous than that of music.

And does not this fact agree exactly with their characteristic tendencies and powers of mind? Carolan, as a lyric poet, must yield the palm of excellence to Burns, though many of his compositions in that line are marked by great tenderness and sympathising, unselfish warmth of attachment, and sometimes by a sprightly, mirth-inspiring humour, which was calculated to delight all without wounding the feelings of the most sensitive. Burns, on the other hand, never evinced any genius for music, and cannot, therefore, in respect to that charming art be put in competition with so rare and original a musical composer as Carolan. In this attribute Burns falls far short also of Thomas Moore. And it is a palpable fact that the organ of music is much more developed in the plaster cast of the face of Ireland's great lyric poet than in the cast of the skull of that pride of Scotland's bards. But in the mental constitution of the latter Ideality formed the dominant ingredient, and it imbued all the others with its own yearning after the beautiful in everything. Still he was not Moore's equal in the charming variety of exquisite musical versification in which the Irish melodies are enshrined. Yet, to judge by the comparative saliency of Ideality in the skull of Burns, it should be inferred that he was still more than Moore under the imperative influence of the spirit of poetry, though he can hardly be said to cope with him in brilliancy of fancy or the exquisite beauty of his similitudes and metaphors. In the poetry of the feelings it would be hard to point out the compeer of either. And it may not be straying too far from the region of Ideality to pass on to that of the social and domestic affections in order to notify here the exact accordance that is found to exist in the case of both these poets between the passionate

warmth of these feelings and the paramount development of their respective organs.

The contrast between the skulls of Burns and Swift is very marked, for Ideality is only of moderate size in the latter. And, notwithstanding the great genius of "The Dean," his mind was not imbued with a refined sense of the beautiful in poetry. No doubt it was the want of this attribute in his Pindaric odes which caused Dryden to say, "Cousin Swift, you will never be a poet." Swift, however, has written a great deal of poetry, and it has been pronounced by good judges to be admirable of its kind. But it is of an humble kind. Yet liveliness, fertility, and originality of imagination, were striking features of his mental character. But from want of that enthusiastic sense of the beautiful, by which such poets as Spenser, Shakspeare, Milton, Tasso, Ariosto, and Dante were inspired, he had no internal monitor prompting him to illumine his literary path with a light similar to that which has shed such radiant splendour over theirs.

In the cast of the skull of Swift's beloved friend, Pope, the organ of Ideality is finely developed. But yet it is not so salient, in relation to the surrounding ones, as it is in the skull of Burns. This is not because Pope's forehead is larger than Burns, for in reality it is not either so high or so broad, but because that organ is so harmoniously proportioned to those of the intellectual faculties in Pope, by means of the intermediate organ of Wit, which is one of rare prominence in the skull of that great satirist. And certainly in the nicely-adjusted equipoise of the intellectual organs the advantage is with Pope. In this characteristic it would not be easy to meet with his compeer, much less his superior. And,

when these outward symbols of the talent of bringing the ideas with facility into harmonious and concentrated association are in him supported by a powerful but not redundant organ of Language, it is not surprising to find that he had gained a reputation in his early childhood for literary precocity. But the kind of literature to which he instinctively devoted himself was owing to the genial promptings of a superior organ of Ideality. And it will not be altogether irrelevant here to add that the spirit of overwhelming satire, in which he so often revelled, and in the galling outbursts of which he stands almost without a rival, may be traced to the dominancy of his salient organ of Wit, when excited by a well-developed organ of Combativeness, after these had been aroused to anger by wounded self-esteem and love of approbation, the organs of which are highly characteristic features of the head of Pope. And it should be observed that there is not to be found in his scull such a dominant indication as that which Burns' displays of the presence of that glowing sense of benevolence which rendered the character of the latter so lovable.

The organ of Ideality is a prominent feature in the antique bust of Horace; and it is gratifying and instructive to find that between the form of his forehead and Pope's there is a close similarity. And do not the admirable satires and moral epistles of each afford striking evidence of their intellectual affinities? But the forehead of this great Roman poet is rather more expanded. And if they are pretty nearly of equal size in the region of Ideality, the advantage with respect to that of melody is on the side of Horace; whose great ambition it was to clothe his thoughts and feelings in the fascinating garb of lyric verse. And though he failed to strike out of the glowing

furnace of his imagination the dithyrambic fire, which was so germane to the lofty genius of his pattern, the rapturous Pindar, yet he has always been called the Prince of Roman lyric poets.

It will not perhaps be thought unduly digressive to notice here, that in this antique head of Horace there are uncommon indications of a most genial, unselfish, affectionate, graceful disposition, that was truly unambitious either of wealth or power. His beautiful ode, commencing thus "*Hoc erat in votis*," is charmingly enunciative of this.

In the bust of Pindar, himself, Ideality is extraordinarily developed, and Melody or Tune is prominently characteristic. In his head are also to be seen the outward emblems of a character in which a deep sense of reverence for what is great and noble is happily commingled with manliness. Ideality is very large in Æschylus, the eldest of the three great tragic poets of Greece. In his head the region of the organs of Veneration and Wonder are also developed to an extraordinary degree. The instinctive force of the last-named organ prompted him to invest the phenomena, which his genius delighted to depict, with supernatural attributes; and the beauty and appalling grandeur, with which they were imbued were owing to the paramount strength of that organ, when rendered still more intense by a most elevated sense of poetic beauty, imparted by dominant Ideality. Combined with a fine development of the moral region of the head, there is in the bust of Euripides also a very salient organ of Ideality. In him the reflective organs, Comparison and Causality, were strikingly characteristic, while Individuality and Eventuality, though adequately developed for most uses, were subordinate to Causality and Comparison. Hence

it should be inferred that *Æschylus*, in whom the perceptive organs just named were of immense size, would be more a man of action, and that *Euripides* would be more a man of contemplation. The former would be more instinctively alive to the phenomena of the external world and the actual doings of men, the latter would be more disposed to search out the hidden causes of phenomena and the motives which govern human actions.

Sophocles, like his great rivals, was endowed with a very fine development of Ideality; but the form of his forehead partakes of the character of each; though it is not so salient as either in the parts that most strikingly characterise them. From this it would be inferred that he was less influenced by the phenomenal world than *Æschylus*, and less philosophically sceptical than *Euripides*. The moral region of the head is large in all of them, but in *Æschylus* the animal portion is large, while it is moderate in *Euripides*. *Sophocles* also had more of the animal organs than his younger competitor, and in him there are indications of a courageous energy, as well as tenderness of feeling. But the cerebral marks of grandeur and sublimity of genius lies with *Æschylus*; while the rapid current of his conceptions was not so much under the restraint of method, as would be the case with *Sophocles* and *Euripides*.

In the bust of *Theocritus* there is a very large organ of Ideality, and it is blended so harmoniously with the organs of the intellectual faculties and Wit in front, and with large Imitation, Benevolence, Marvellousness, and Veneration, which lie above it, that it would be hard to find a head superior to it in gracefulness of contour. In this head of *Theocritus* there are striking cerebral indications of gentle, compassionate, respectful, affectionate dispositions,

without being in the slightest degree alloyed by selfishness. And to enhance the inherent beauty of these mental qualities, there was diffused through the whole of them that sense of the beautiful, which is the abstract essence of poetry, and which depended for its manifestation upon the presence of his salient organ of Ideality. The forehead is in this instance very high; and the reflective organs are characteristic features. But, though those of the perceptive faculties are good and harmoniously balanced, the Individuality and Eventuality were not large enough to induce him to quit scenes of repose and tranquillity, in order to join the strife and turmoil which all must go through who devote their lives to public affairs.

What a contrast there is in respect to the size, both absolute and relative, of the organs of Ideality, Individuality, and Eventuality, between the heads of Theocritus and Demosthenes! In the busts and statues of the greatest of Grecian orators, Ideality is but of moderate size, while the other two organs are exceedingly large. And can there be pointed out two other great men, in all the range of history, whose intellectual attributes were more unlike than theirs? How far inferior, too, in development is the region of Ideality in the powerful head of the unpoetic Zeno, the great stoic philosopher, as compared with that of Plato, the intrinsic grace of whose virtuous aspirations was enhanced by his exalted sense of that abstract ideal beauty which it was in the power of his large organ of Ideality to communicate.

But this beautiful element of the human mind is not dependent upon words alone for its elucidation. It finds its way to the heart and soul through the painter's brush, the sculptor's modelling tool, and the musician's symbolic

notes, as well as through the pen, when these instruments are swayed by men of genius. And, accordingly, it is a prominent feature in the portraits of Correggio, Raphael, Michael Angelo, and all those artists who have excelled in the highest line of art. It is to be seen illumining the enchanting landscapes of the inimitable Claude Lorraine. The refining influence of this faculty over the imaginations of Turner, which sometimes led that great painter into extravagant flights in striving to approach the glowing tints of nature's brightest hues, is to be seen to great advantage in his noble picture of the "Sun rising in a Mist," a picture that entitles him to almost as high a niche in the classic temple of fame as the one so surely occupied by Claude himself. And still more purely and abstractedly is its influence felt at the sight of his charming landscape, called "Crossing the Brook." But it is in his beautiful "Fighting Temeraire," that the paramount influence of "Ideality" over his artistic attributes displays itself without transcending the precincts of nature. In his Ulysses and Polyphemus its presence, as a prominent element of his mental constitution, is still more magnificently depicted. But here are splendid indications of his having been then actuated by inspirations issuing from a deep sense of the wonderful or the supernatural, the organ of which, like that of Ideality, is a prominent feature in a posthumous plaster mask of this eccentric man of genius.

In the head of that charming landscape painter, Danby, Ideality was very salient; and in looking at some of his most characteristic works you seem to breathe the dreamy atmosphere of poetry. The fertile genius of Maclise is deeply imbued with this mental quality; and, in a fine mask of him in plaster, the organ with which that

attribute is incorporated is uncommonly large; and it is also very salient in that fine painter, Herbert.

In all the great masters of music this region of the head is strikingly developed. And this their busts and portraits amply testify. In the cast of Mendelssohn Bartholdy's head the organ is remarkable prominent. It is not a striking characteristic in the cast of Moschelles, the eminent pupil and biographer of Beethoven; while his "all-feeling" master was himself endowed with it in a rare degree. It is large also in the mask from nature of Weber.

Notwithstanding the quantity of evidence already adduced, the interest attaching to a few celebrated names of our own country will sanction their introduction here as satisfactory examples, both positively and negatively, of the truth of Gall's doctrine regarding the function of the cerebral region now under consideration.

Let, for instance, any one of the engraved portraits of Edmund Burke be compared with Sharpe's fine engraving of his acute and plausible antagonist, in regard to the natural "Rights of Man," Thomas Paine, and it cannot fail to be seen that the cerebral region which is situated in the upper portion of the temple is very large in the former and only of moderate size in the latter. In the cast taken after death of Jeremy Bentham, it is but poorly developed; while in that of William Godwin it is uncommonly salient. And is not the absence of the poetic sentiment a singular feature of the mental constitution of the renowned patriarch of utilitarianism: and, on the contrary, was it not a copious element of the mind of the famous author of Caleb Williams and St. Léon? It is very conspicuous in the head of Lord Macaulay. It is not so in that of his very eminent friend, Sir James Mc'Intosh, whose singularly expanded

and harmoniously balanced forehead, while it affords palpable evidence of the true greatness of his talents, also shews the truth of the adage—*poeta nascitur non fit*. And, on the contrary, does not a fine vein of poetry run through all that Macaulay has written. Or let the portrait of Lord Brougham, engraved by Walker, after Lawrence's fine picture of that wonderful man, be compared with those of George Canning, after pictures by the same eminent painter, and the superiority of development, with respect to the region of Ideality in the head of Canning is recognizable at a glance.

Notwithstanding that, in some respects, the intellectual development of Lord Plunkett was much superior even to that of Henry Grattan, yet the latter was endowed with a finer relative development of this organ. Those who have seen O'Connell and Shiel together, could not but admit that the intellectual region in the head of the former was far superior to that of the latter, while to Shiel would be awarded pre-eminence in regard to the development of the organ of the Sense of Poetry. And are not these cerebral peculiarities quite in accordance with the oratorical characteristics of those great advocates of Catholic emancipation. Yet, notwithstanding the superior brilliancy of Shiel, he fell far short of O'Connell's range of intellectual power, and was by no means his equal in fertility of mental resources in perilous emergencies. And it may not be irrelevant to observe that O'Connell's fine forehead was remarkably emblematic of these rare talents; as well as of intellectual industry in his labour of love which never seemed to be affected by a sense of lassitude, till towards the close, when the energies of his over-wrought brain gradually gave way, owing to the softening of it.

It is well to say here, that the peculiar form of head

which is accompanied by powers of unabating and unswerving intellectual assiduity has been already pointed out when treating of the faculty of intellectual concentration.

The effect of a superior endowment of the organ of Ideality is inauspicious, when the organs of the intellect are so ill-balanced as to create discord in the association of the ideas. And this is especially the case when the upper part of the forehead is excessively large, while the lower portion of it is but poorly developed. According to the measure of this inharmonious discrepancy of form there will exist a dreamy neglect of the necessary affairs of life, or such preposterous eccentricity as characterised a patient of the Salpetriere, of whose brain, scull, and head, diagrams are given in Plate 7. This woman, whose name was Maunier, was disposed to give vent to extravagant poetical ideas. But when she attempted to compose, then she was so affected by the inordinate action of her faculties, that her exalted notions ended in the ravings of insanity. This woman rejoiced in the conviction that she was the betrothed of the great Napoleon. And to the entertaining of this fancy she was impelled by the suggestions of a strong amatory propensity, the presence of which is seen in the largeness of her cerebellum, and by great pride, which was owing to the relatively prominent development of a morbidly active self-esteem.

Very opposite to this was the case of Sestini, the celebrated improvisatore, who died in Paris of inflammation of the brain. In him Ideality was finely developed. But it was so harmoniously blended with the organs of the intellect, of which those that principally serve to concentrate and arrange the thoughts were in him very large, and were, moreover, so beautifully pro-

portioned that he became distinguished for the rare faculty of giving unpremeditated expression to poetical imaginings, even in the form [of rythmical numbers (see Plate 7.)

The series of diagrams of these two singular and very opposite characters are interesting examples of the perfect coincidence of certain forms of the head with special mental faculties, in accordance with the laws of cerebral physiology discovered by Gall. And not only this, for they also afford undeniable evidence of the complete accordance existing between the development of the head and of the brain within it. And do not they shew, also, in a palpable manner, the futility of the objection in regard to the frontal sinus so often put forward as a fatal barrier to the useful appliance of Phrenology towards the delineation of character?

The sentiment of Ideality, when it forms an active ingredient of the mind, and is associated with a high moral sense and warm social affections, is obviously conducive to happiness. But still it often proves a fertile source of discomfort, by rendering men so constituted dissatisfied with the occurrences of life, which usually fall far short of the standard of ideal excellence which it is the essential nature of this faculty to engender. For this sentiment gives the capacity for clothing with a garb of transcendent lustre forms that are even in themselves beautiful. It invests the reminiscences of early days with the bloom and verdure which charmed us in the spring-time of our hopes. It assists benevolence in rendering even charity itself more amiable and interesting, and under its influence hardhearted selfishness and grovelling sensuality lose much of their asperity and grossness. But though it thus tends to abate the atrocities of vice,

and in a high degree enhances the charms of virtue, still it can hardly be placed within the sphere of the purely moral sentiments. It is, however, a powerful auxiliary, because the love of abstract beauty and perfection is its specific attribute. It must, therefore, be an essential element in the composition of a true poet's mind. But the character of a poem and the manner in which it is constructed depend upon the way in which the sentiments, feelings, and intellectual faculties are associated and balanced.

When in combination with musical talent, with warm and energetic social affections and lofty sentimental aspirations, it gives rise to the exquisite lyrical effusions of Moore. Combined with dominant reflective faculties, high moral sentiments and less ardent passions, it produces a genius like Wordsworth, whose lyrical efforts, though eminently poetical, are found by some competent judges to be wanting in the glowing ardour of the passions by which the poems of Moore are so essentially characterised, but whose moral and philosophical poetry, which is sweetened with so much social and compassionate tenderness, entitles him to rank as one of the greatest poets of his time. When united with a pensive thoughtfulness, elevated sympathies, and warm affections, it characterises the poems and inspiring songs of Campbell. The chivalrous highmindedness, the purity of sentiment, and the warmth of attachment which spread a romantic charm over the writings of Scott, and the presence of which attribute is indicated by the form of his singularly lofty head, had their inherent beauty enhanced by Ideality. Yet his cast from nature does not exhibit the superior prominence at the upper part of the temple, which is the constant characteristic of the greatest of poets. But it

had a wide surface for the convolutions of this organ to become expanded in, owing to the surprising height of his head. Still the glow of enthusiasm, which pervades the tender and romantic imaginings of Scott, owed most of its brightness and warmth to the intrinsic strength of the primitive feelings themselves. For virtuous aspirations are truly beautiful, even when divested of the enchanting hues of poetry. But yet these render their form and complexion still more fascinating. And though it were vain to "gild the rose or throw perfume on the violet," yet the quality of mercy itself may be invested with additional charms through the promptings of the spirit of poetry. It was in this beautiful faculty of the human mind that the great and fertile and varied genius of Scott was wanting, as compared with that of Shakespeare, whom he resembles in the dramatic character of his mind. And, as has been already noticed, the only trustworthy portraits of Shakespeare now in existence, namely, the print by Martin Droeshout and the monumental bust at Stratford-on-Avon, possess an extraordinary development of the organ of Ideality. In Scott, the organ of Marvellousness was very large, and its influence was felt more strongly by him than that of Ideality.

Is it to the influence of this faculty we are to attribute the fact that those poets who possessed it in an eminent degree were the earliest refiners of language? Not that they enjoyed, perhaps, a greater share of intellect, or greater fluency of expression than some philosophers and historians; but that they were endowed with a greater relative amount of that sentiment, which renders the action of all the other faculties more refined.

The part which this faculty plays in the workings of a poet's mind was well understood and accurately described

by Gall, for he says, "It requires a peculiar and proper power to animate all the others with the sacred fire of Apollo." And though he at first named it the "Talent for Poetry," his writings plainly shew that he considered it to be the organ of the Spirit of Poetry. And it can be scrupulously averred that the local position of this organ of Ideality is as truly ascertained as the separate existence of the faculty itself.

It is well to observe, in conclusion, that the joyous temper which accompanies a predominance of this organ, and especially when it is associated with salient organs of Hope and Benevolence, and moderate ones of Caution and Acquisitiveness, would undoubtedly tend to render the sedulous and methodical pursuit of duties somewhat irksome. But this unlucky tendency will be found to grow with accelerated speed, if there be a head thus organized, that has but a poor development of the organs of Time and Order. These two should therefore be cultivated with the greatest care in such cases, at the time of childhood, when the brain is plastic, for their effectual co-operation is indispensable to the future independence and happiness of every one.

WIT—MIRTHFULNESS.



HAVING in the last essay endeavoured to ascertain the nature and source of the faculty which enables us to embellish all our intellectual delineations with the bright hues of poetry, and which imparts the poetical bias, even where the capacity of producing poetry is denied, and to shew that it should be deemed a primitive faculty; and having also demonstrated by many affirmative and negative proofs, taken from nature, that the amount of its power depends upon the actual, and still more on the relative development of a certain part of the brain, which is situated in the temples, I shall next attempt to point out the real function of an organ which lies immediately in front of that of Ideality.

Dr. Gall observed that persons remarkable for what is called Wit, either in writing or conversation, had the superior lateral parts of the forehead very full and rounded. He says, "This faculty considers objects under a point of view altogether peculiar, finds in them relations altogether peculiar, and presents them in a manner altogether peculiar, which constitutes what is called salt, causticity, and sometimes *naïveté*." And again he says, "When this organisation predominates it carries with it an irresistible propensity to ridicule everything, to spare neither friend nor brother." . . . He then cites numerous cases to prove the correctness of his opinion,

and concludes by saying, "It is therefore no longer permitted to doubt that this talent is indicated by the organisation which I have described. The manner in which it manifests itself, whether by offensive sarcasms or by jests without bitterness, the choice of its subjects, etc., all this depends on the greater or less development of other organs."

Wit may be bitter and ill-natured, or playful, and devoid of sarcasm. It cannot, then, be an emanation from a single faculty, since no one power of the mind can be productive of opposite functions. The term, wit, does not, therefore, properly designate the abstract nature of this power.

To be witty requires the simultaneous and ready action of several faculties, but the tendency to excite those faculties to witty and ludicrous associations of ideas depends upon a single mental attribute, which has its own appropriate organ in the brain. And as no amount of intellect will enable one to shine as a poet of the highest class without an ample endowment of the organ of Ideality, so will it be impossible for any amount of perceptive and reflective talent to render an individual remarkable as a wit or humourist without a considerable share of the organ which causes us to rejoice in ludicrous and laughable intellectual combinations. On the other hand, these two organs may be possessed in an eminent degree without imparting the talent for arraying subjects in the garb of poetry or of wit. Some persons excite mirthful emotions not by the exhibition of intellectual flashes of wit or humour, but by placing their subject in a ludicrous point of view. Nor is the effect produced much impaired by the absence of intellectuality in the grotesque performances of some hair-brained individuals,

the laughter-moving effect of whose antics are not at all diminished by their ridiculousness.

A sense of the ludicrous would seem to be a special function of this organ of Wit, as Gall has named it, just as the sense of the beautiful is an essential attribute of the organ of Poetry, so designated by the same great authority.

Dr. Spurzheim named it the organ of Mirthfulness and Gayness, and certainly gay and mirthful emotions always accompany ludicrous intellectual manifestations. Yet it must be admitted that some individuals, whose works abound in ludicrous descriptions, have not evinced, at least publicly, much gaiety or mirthfulness of disposition. Peter Pindar (Dr. Walcott) is said to have been morose and heavy in company, and the author of "Hudibras" required, it is said, the stimulus of ardent spirits or wine to render him an agreeable companion. Swift was seldom seen to smile, and his manners were not characterised by mirthfulness or gaiety. Curran, who delighted every company he moved in by the frequent play of brilliant corruscations of wit and humour, was habitually of a desponding temper. And Liston, who succeeded beyond any man of his time in creating laughter by the drollery of his histrionic efforts, was known to be habitually grave. Nevertheless, this faculty creates a tendency to be mirthful and gay, and the droll, fantastic light it elicits, even from trivial things, seems to have been given for the purpose of illumining, and dispersing the gloom which melancholy sometimes spreads around us in our progress through life. To the desponding poetical temperament of Curran, it must have acted as a salutary corrective. And it was this faculty enabled the amiable and melancholy Cowper to dissolve,

for a time, the mists of despondency, which sometimes obscured the brightness of his understanding, when he composed his *John Gilpin*, which is looked upon as one of the most humorous pieces in the language. In the portraits of those whose names have been adduced, the superior lateral part of the forehead, which is the seat of the organ of the sense of the ludicrous, is very salient.

No one can excel as a caricaturist without a rich endowment of this organ; and the portrait of Gilray, who still remains almost unrivalled in this species of art, exhibits a large development of it. And in the forehead of that admirable painter of manners in their most humorous and amusing phases, John Leach, the superior outer angle of his broad forehead is very prominent. And in the fine terra cotta bust of Hogarth, by Rubilliac, this organ is very salient.

But it may be objected that writers on Phrenology, of eminence, have stated that the organ is not well marked in the mask of Curran. Mr. Combe himself was, I believe, of this opinion. And, lest the fact should militate against the establishment of the organ, he is disinclined to allow that Curran possessed genuine wit and humour. I shall not, now, attempt to gainsay this opinion by adducing specimens of those multifarious emanations of Curran's genius, which were deemed by his most enlightened contemporaries in the highest degree witty and laughter-moving, but content myself with stating the opinion of one or two competent judges.

A friend having, one day, observed to John Horne Tooke, that he considered him, Tooke, the wittiest man in the kingdom; he replied "No, there is, at all events, one wittier man, and that is John Philpot Curran." Tooke, on another occasion, being asked which he considered the

wittier man, Sheridan or Curran? said, "The wit of Sheridan is like polished steel, cut and fashioned for the occasion; Curran's is like gold-dust flowing in inexhaustible and unpremeditated profusion." And the author of "Sketches of Irish Political Characters," in the year 1799, thus writes, "He (Curran) has equal power to elicit tears from the softness of sensibility, or extort from gravity itself the roar of laughter."

"He abounds in wit, flashing with reiterated strokes, and almost with the rapidity of elementary fire; its corrusions gild the gloom of debate."

His powers of sarcasm, too, were of the very highest order; and he was, perhaps never surpassed in the power of instantaneously transfixing an adversary with the unerring shafts of withering ridicule.

Mr. Combe grounds his opinion upon the published speeches and sayings of Curran. But, it should be recollected, that his cotemporaries have said that these give but a very inadequate notion of the splendour of his eloquence or the brilliancy of his wit.

Taking the same authority as a criterion, an acute observer has said, that the recorded wit of Curran (and it was said in disparagement of his ability in that respect) was not like that of Sterne, in whose head the organ of Wit was pronounced to be very large. Granted; neither is the poetry of Wordsworth like that of Byron; although they were both endowed with the organ of Poetry, or Ideality, in an eminent degree. And the cause is obvious. Their heads differed exceedingly, as to form, in almost every other respect. So may Sterne and Curran have been possessed of an ample share of the primitive faculty, now under consideration, and yet have differed widely in their mode of applying it, in consequence of an essential

disparity in the relative development of other powers, which are indispensable agents in giving a special direction to this faculty.

Here, perhaps, the opponents of Phrenology will exclaim, Oh! we agree with you in your estimate of Curran's wit, but take leave to remind you that you are demolishing the fantastic abode raised by the inventive powers of Gall for the reception of the genius of jollity and laughter. For Combe says, that the organ which he supposes to be that of a sense of the ludicrous is scarcely full in the mask of Curran.

Undoubtedly, the opinion of Mr. Combe is entitled to the highest respect as an authority in this matter. But from what I know personally of his benevolent and unpretending disposition, I feel persuaded that he was the last man who would lay claim to infallibility, or underrate, much less ignore, the judgment of other practical observers. Now, to me the organ of Wit is decidedly large in the original mask of Curran. I have compared it carefully with casts from nature of men remarkable for the mental qualities attributed to this organ, and I have found it superior to most of them. It is larger in this mask of Curran than in those of John Wilks, Horne Tooke, and R. B. Sheridan, although the organ is very full and rounded in each of these. It is less marked in the posthumous cast of the Rev. Rowland Hill than in the mask of Curran, though the part is remarkably developed in Rowland Hill's cast. In the mask of the great comedian Elliston, this organ bears a great resemblance to that of Curran, when viewed in its relation to the neighbouring organs. In Curran the forehead was remarkably high and exceedingly full in the centre, which embraces the organs of Individuality, Eventuality, and Comparison.

Such a combination of organs gives a rounded appearance to the forehead; and this causes the superior lateral part, which is the seat of the organ of Wit, to be less conspicuous, than if the forehead were somewhat square, as it is in the fine bust of Sterne by Nollekens. And here it may be right to say that the organ of Wit is extremely protuberant in this bust, as well as in the fine print of Sterne by Fisher, after Sir J. Reynolds. And it is worthy of remark that if the eye be carried upwards from the organ of Music, in the mask of Curran, that of Wit, which lies immediately above it, will be found to be very salient, notwithstanding the presence of a fair development of the organ of Music.

In order the better to comprehend the value of the estimation in which the wit of Curran was held by his cotemporaries it is, perhaps, desirable to enquire, briefly, into this peculiar manifestation of mind.

Dr. Johnson says in the "Rambler," "Wit being an unexpected copulation of ideas, the discovery of some occult relations between images in appearance remote from each other. An effusion of wit, therefore, presupposes an accumulation of knowledge; a memory stored with notions, which the imagination may call out to compose new assemblages. Whatever may be the native vigour of the mind, she can never form many combinations from few ideas; as many changes can never be rung upon a few bells."

Now, the form of brain which enables one to accumulate knowledge and store the memory with notions was possessed by Curran in an eminent degree. He had large perceptive organs. Eventuality, Individuality, and Language were very large. This combination enabled him to acquire a vast amount of miscellaneous knowledge, to

compare and select facts, and to express his thoughts with great fluency. And we accordingly find that the author of the "Sketches" before alluded to, says, "His mind was stored with a variety of useful and entertaining knowledge; his matter is always drawn from an abundant source, and is always happily selected." Curran also possessed a very large organ of Comparison, and this, with the perceptive powers already adverted to, conferred on him the talent of rapidly discovering "some occult relation between images in appearance remote from each other."

Hence it would seem that a capacity for readily drawing remote and unexpected analogies from objects which, in most respects, differ widely from each other, and which Dr. Johnson considers the essence of Wit, arises from an ample endowment of the intellectual organs generally, but especially of Individuality, Eventuality, Comparison, and Language, combined with an adequate share of Causality, without being under the necessity of waiting for the aid of any special organ of Wit, of gaiety, or of a sense of the ludicrous. And, indeed, this will not be deemed strange, when it is considered that the most finished strokes of wit are not always those that cause laughter, by exciting a sense of the ludicrous or the mirthful.

But, the drawing of comparison between objects which not only differ widely from each other, but are, at the same time, so opposite in their nature, that the making of any comparison at all between them, carries with it the idea of ridiculousness; and when such incongruous analogies are sought after, and dwelt on with pleasure when they instinctively present themselves, it is not unreasonable to suppose that a peculiar power must exist to give rise to such a bias of the mind. And since there can be no doubt of the separate existence of a sense of the beautiful

and the wonderful, it would, indeed, be to curtail the fair proportions of nature to deny that there exists, also, a sense of the ludicrous, and if it is a fact that the two former powers are accompanied by appropriate organs, one can have but little hesitation in seeing the necessity of this faculty being also provided with a special, appropriate organ.

Now, with respect to Curran, it is not only quite certain that he possessed, in an eminent degree, the faculty of rapidly tracing resemblances between things differing widely from each other in their general features, but that he was also remarkable for imbuing such analogies with the hue of drollery and ridicule. This power he frequently manifested by a play upon words, a mode of displaying wit which it has become the fashion with many to undervalue and reject. Yet it is true that the power of manifesting a quick appreciation of remote analogies, and of giving these comparisons a ludicrous colouring, may be successfully evinced by a well applied play upon words.

One of Curran's sallies in this way just now occurs to me. He was one evening surrounded at a great ball by a group of ladies and gentlemen, when his attention was arrested by a lady inquiring who a young man was that happened at the time to be cutting a conspicuous figure by the elegance of his dress and the foppery of his manner. "Oh," said Curran, "he is just returned from his travels." "No," observed another, "he has never been out of this city." "You are mistaken," said Curran, "he is lately come from Pultusk." This young man was the son of a dentist in Dublin.

Now here was a very rapid perception of resemblance between two things as different from one another in their nature as it is possible for any two things to be, namely, the drawing of a tooth and a town in Poland. This,

according to Johnson, constitutes wit. But in addition to this there is a degree of ridicule apparent in the application of it which nothing but a keen sense of the ludicrous could have suggested. And that Curran possessed this power in an eminent measure is noticed by the writer, already quoted, in these words. "In the attorney-generalship of Fitzgibbon he came into frequent collision with that imperious lawyer, who was, nevertheless, often vanquished by the ridicule of Mr. Curran's wit."

Although this sentiment is not intrinsically ill-natured there is no doubt that, except in minds very amiably constituted, it imparts a relish for what Gall calls salt and causticity, without which ridicule would fall flat and spiritless. And though a sense of the ludicrous or the ridiculous may be gratified without ill-nature, still it cannot be denied that satire is its more appropriate companion. Now, as to Curran, the same writer says, "in irony he is pre-eminently successful, being shrewd, sarcastic, and severe, and in satire he stands unrivalled; it is a caustic that causes the most stupid to feel and the most insensible to wince, it appals the effrontery of impudence and scares the audacity of public prostitution, nor rank nor station can shield themselves from its force, and when seemingly contemned it has been known to have operated with the greatest force."

As an instance of his ready wit and his power of conveying a cutting sarcasm in a single epithet, the following anecdote will show. A barrister who owned large landed property was opposed to Curran as counsel in a cause, and being annoyed and disconcerted by the pertinent points made by the latter, who was then young and very poor, he, in a contemptuous manner, said that no man should be called to the Bar who was not in possession of

a stated number of acres of land. "And pray, sir," said Curran instantly, "how many acres would make a wise-acre?" Here is a remote analogy between incongruous things, and used in a provokingly sarcastic style.

It is obvious, then, that Curran did really possess, in an eminent degree, the salt and causticity of Gall, and the sense of the ludicrous of Combe and Spurzheim. And, since this bias of the mind depends upon the saliency of the superior lateral part of the forehead, it follows that this part must have been well developed in Curran, supposing this to be the position of the organ. That such is really the case I have already endeavoured to demonstrate, by a strict comparison of his mask with those of other men who were celebrated for the brilliancy of their wit.

Mr. William Scott, an able and truly philosophic writer on Phrenology, thought that the primitive function of this organ is to discover differences, that the organ of Comparison discerns resemblances, and Causality necessary connexion, the three combined forming the true philosophic understanding. He adduces Dr. Franklin in proof of his position. He states that the part of the head we are now considering is large in the bust of that remarkable man, and yet he was not aware of his having been considered witty.

Undoubtedly this part of the forehead is large in Houdon's bust of Franklin, and the doctor was certainly a great philosopher. But he was also witty. Indeed, there is a vein of quiet humour running through his writings, indicative of his having possessed power in that way had he chosen to render himself remarkable for wit or humour. The Abbé Morellet, with whom Franklin associated much when he resided at Passy,

near Paris, as Minister Plenipotentiary from the United States, says, in his "Memoirs on the Eighteenth Century," "Franklin's manners were in all respects delightful; there was about him perfect good-humour and simplicity, an uprightness of mind that appeared in the smallest occurrences, and above all a gentle serenity which was easily excited to gaiety. He also says that Franklin excelled in relating anecdotes, and that his stories had always a philosophical object. But though Franklin could be witty, and was easily excited to gaiety, such was not the leading characteristic of his mind. "His stories had always a philosophical object." And why so? Because he was endowed with an uncommon development of the organs of the moral and intellectual faculties. The organ of Causality he possessed in an eminent degree. The great size of this and of the organ of Comparison, gives remarkable width to the upper part of the forehead, and thus is imparted, but only apparently, greater prominence to the organ of Wit or Mirthfulness in Franklin than it assumes in Curran, in whose forehead Causality is not quite so marked a feature, although the organ of Wit far more strongly characterizes the head of Curran than that of Franklin.

But granting that this organ is more prominent in one person than in another, and yet that the latter shall manifest more Wit, still this would not militate against the correctness of the views of Gall and Spurzheim with respect to the function of this part of the brain; for a man may have a strong sense of the ludicrous, may be fond of mirth and given to laughter, and yet possess little power of exciting those sensations in others by flashes of wit, from a deficiency of strength in those faculties which alone enable one to recall images, and form new and

unexpected associations of them with almost intuitive rapidity. Now, these powers, as I have already shewn, were possessed by Curran to an extent rarely equalled and perhaps never surpassed.

With respect to Mr. Scott's opinion, namely, that this organ perceives differences, while Comparison appreciates resemblances; and that Wit consists in a perception of difference, or of congruity and incongruity; it seems certain that in the perception of congruity comparison must be active, even though a separate faculty be considered necessary for the appreciation of incongruity. But in the application of Wit, the perception of resemblance so constantly precedes the perception of difference that one would be justified in associating a sense of the ludicrous with the faculty of Comparison, rather than with that which appreciates differences; supposing such a power to exist distinct from the faculty of comparison.

There does not, however, seem to be any necessity for such a special separate faculty; for in order to find out the differences of things we must compare them, and it is thus that we obtain a knowledge of their distinctness.

Another very able writer in the *Phrenological Journal* supposes that a sense of the ludicrous is merely a mode of action of any faculty; and feels inclined to attribute to the organ under consideration the power of investigating the essential nature of things, that it gives the tendency and power not only to portray the outward shew of things and the conventional manners of men, but also the intrinsic nature of the former and the inward motives of the latter.

Now, it is quite impossible to admit that a sense of the ludicrous can be a mode of action of each of the

faculties. How, for instance, can the sense of the sublime and beautiful be productive of drollery and ludicrousness as one of its intrinsic modes of action? How can that power of the mind which alone aims at perfection and grace be the source of what is ridiculously grotesque and incongruous? How is it possible that two such opposite sentiments could be manifestations of a single organ? It has been said that from the sublime to the ridiculous there is but one step; and certainly the uncontrolled and ill-directed outpourings of Ideality are productive of ridicule and laughter. Yet this is no proof of the sense of the ludicrous being an attribute of that organ. Such feelings of ridicule are excited in the minds of others by an over-wrought organ of Ideality, inharmoniously blended with those other powers, without the guidance of which it may degenerate into bombast and irrational eccentricity. In this way may every faculty give rise to droll and ridiculous notions without its being necessary to consider a sense of the ludicrous as a mode of action of any faculty. A fond mother may excite this feeling strongly in others by the foolish manner in which she may sometimes evince her love of her child. But are such results a mode of action of the organ of the Love of Offspring? Certainly not! So far from there being a tendency in the mother to excite ludicrous feelings by such excessive love, there could not be anything more calculated to wound her. A husband, jealous without cause, may render himself supremely ridiculous, but surely the faculties in which his jealousy originates are not the fountains from whence this sense of the ludicrous springs. On the contrary, nothing can be more serious, nothing less disposed to laughter and jollity, than a man possessed by so overwhelming a passion. But yet such folly is calculated to excite the feeling of the ridiculous in

others. A beautiful illustration of this has been left us by Shakespeare in the character of Ford, in the "Merry Wives of Windsor." Benevolence may pity the distraction of Ford, but it is not possible to avoid laughing at his disappointment in not finding Falstaff concealed in the buck-basket. It is quite clear, then, that any faculty may cause its possessor to conduct himself so as to create mirth and laughter, through a keen perception of the ludicrous in others, without being itself in the slightest degree desirous of placing its manifestations in a ridiculous light.

Repudiating the existence of a primitive faculty for a sense of the ludicrous, and finding the organ assigned to that sentiment to be very prominent in the head of Sterne, this able writer is at some pains to show that that great wit possessed the peculiar talent which he is disposed to think has its source in this organ. In illustration of his opinion, he quotes a passage from the "Sentimental Journey," wherein Sterne not only describes the peculiarities of different travellers, but also points out the motives which induced each of them to travel.

There can be no doubt that Sterne possessed this talent in an eminent degree. Indeed, a high tone of philosophy pervades almost all his writings. Even where he is most droll there is something to arrest the attention of a reflective mind. Yet, surely, the power of fathoming the depths of human motives may be ascribed to the possession of an adequate and well combined development of the intellectual organs generally; but especially of Individuality, Eventuality, Comparison, and Causality, assisted by a fair proportion of the organs of the sentiments and propensities.

Eventuality enabled him to notice accurately the

actions of individuals. Comparison conferred the power of comparing them so as to arrive at a knowledge of their peculiar characteristics, and Causality, which imparts the tendency, and, when assisted by the other two, the capacity to investigate the motives by which men are actuated, rendered him capable of discovering why one travelled for pleasure, another for gain, a third for ostentation or fashion, and a fourth for the sake of health. It seems, indeed, entirely unnecessary to require the presence of any other primitive power to do that which clearly lies within the sphere of action of faculties already existing, when acting in unison and excited to activity by the scrutinising nature of Causality and the desire of knowledge of Eventuality. Now the organs of Comparison and Causality are very salient in the bust of Sterne. Eventuality, also, is fairly developed, though it is not so characteristic as the other two.

If this argument be right the part of the forehead lying outside Causality must have some other function than that ascribed to it by the distinguished writer just now quoted. And as the love of the mirthful and the laughable is undoubtedly a special elementary attribute of the human mind, and not a mode of action of any other faculty, there must be an organ for its manifestation, and whereas all other parts of the brain have, after scrupulous and untiring investigation, had their own functions allotted to them, and since there does not appear to be any necessity for the existence of another purely intellectual faculty as Mr. Scott conjectured, it is only reasonable to put faith in the unimpeachable truthfulness of Gall's discovery. And when it is found that this part of the head is exceedingly prominent in Sterne, who tinged almost everything he ever wrote with a ludicrous

colouring, and remains unsurpassed in wit and humour, that conviction is strengthened.

But the same writer says, that however this may be, the organ is larger in Franklin, Wordsworth, and Dr. Cullen, than it is in Curran, Swift, and Sheridan.

It has been already admitted that this organ is large in Houdon's bust of Franklin, and it has been shown, also, that Franklin was easily excited to gaiety, but that nevertheless a proneness to indulge in witty and humorous sallies was not a leading characteristic of his mental constitution, judging from the form of his forehead, while in the mask of Curran there were salient indications of a dominant tendency to display a rare and almost unequalled genius in that line.

I have compared the mask of Curran with a posthumous one of Dr. Cullen, and I have no hesitation to affirm that the organ of Wit is much larger in the former than in the latter. The forehead of Cullen is square, that of Curran arched and rounded. This might lead some to think the organ to be larger in Cullen. This, however, is not the fact, for the forehead of Curran is much higher, fuller, and rounder than that of Cullen, and it projects far more over the organ of Tune, while Cullen's forehead is broad and square. I would not be understood to say that the organ in question is not well-developed in this great physician, and he may have relished mirthfulness and humour, but the studies he had pursued with such unremitting attention and such eminent success were ill-adapted to the cultivation of wit and humour, while Curran's position in society, his social habits and peculiar pursuits, all tended to foster and encourage such mental qualities in an individual

whose cerebral organization was so admirably adapted for successfully displaying them.

Two early casts of Sheridan and Wordsworth are now before me, and it is obvious enough that the organ of Mirth or Wit in the head of Sheridan has been underrated. Though the upper part of the forehead is more prominent in Wordsworth, it is evident that its superiority in this respect does not arise from a greater development of the organ in question. On the contrary, taking into consideration the comparative development of this organ, and of the organs of Comparison and Causality in both heads respectively, I feel assured that the first is relatively and absolutely much larger in Sheridan than it is in Wordsworth. Besides, Wordsworth's forehead was symbolic of a mind essentially contemplative, and, combined as this characteristic was in him with a beautiful development of the organs of the moral sentiments and Ideality, while those of the animal propensities were very moderately developed—it is not surprising that he should spontaneously indulge in that beautiful serenity of sentiment and philosophic gravity of thought by which he is so eminently distinguished beyond, perhaps, any poet of his time. It is no wonder, then, that he should be less disposed to cultivate and display wit and humour than Sheridan, even with a larger organ of Wit than he really possessed; for in Sheridan the contemplative faculties were not characteristic, while he possessed extraordinary powers of observation, with superior facility in communicating his thoughts in language, full of point and brilliancy. And endowed, as he certainly was, with warm social affections, and strong love of distinction, it is natural to expect that he would aim at enhancing the charm of his conversation with lively sallies of wit and

humour—a talent so much applauded by those to whose society and friendship he was warmly attached. Now, it is reasonable to think that an equal, or even a somewhat inferior, organ of Wit or Mirthfulness would cause its manifestations to be much more cheerfully indulged in by a man with such a cerebral organization as Sheridan possessed, than by one whose head resembled Wordsworth's, for Individuality and Eventuality, essential organs of a wit, are larger in the cast of Sheridan than in that of Wordsworth.

We can scarcely hope to form an accurate estimate of the original development of this organ in the head of Swift from the form of his skull, which bore striking evidence of its having been affected by the gradual decay and ultimate wreck of his intellectual faculties. The possibility of such degenerate alterations of form in regard to the size of parts may be demonstrated in some recorded instances. And the early portraits of Swift indicate greater fulness of the part in question than either the skull or the mask taken after death presents. In conformity with the fundamental law of Phrenology, that size is, everything else being equal, an indication of power, we find that in his earlier productions, particularly in his "Tale of a Tub," Swift displayed greater vivacity of wit and humour, and more buoyancy of style, than in his later writings, scarcely excepting his masterpiece, "Gulliver's Travels." He seemed sensible of this himself in after life, for, upon reading a few passages in the "Tale of a Tub," which he had not seen for many years, he exclaimed to a friend, "What an imagination I then possessed, I can scarcely imagine how I could have composed such a work!" It may be well to observe here, that possessing, as he did, transcendent powers

of observation, which enabled him, as it were, instinctively to see through the pith and marrow of things, a strong feeling of severe indignation at the crimes and unjust assumption of men, and little sympathy for their less harmful follies, and being endowed with wonderful energy and self-will, as well as great personal courage, together with literary genius of the highest order, it is not to be wondered at that he should adopt and cultivate a style of writing which he deemed best calculated to arrest and rivet public attention, and which was most likely to deter others from the practices which he sought to expose. For he says, in his "Apology for the Author," prefixed to "The Tale of a Tub"—"That as wit is the noblest and most useful gift of human nature, so humour is the most agreeable, and where these two enter into the composition of any work, they will render it always acceptable to the world." Is it then to be wondered at that he should have cultivated a faculty so well calculated to gratify his predominant dispositions with greater zeal and success than another man in whom this organ might be equally strong, but whose general character, as in the case of Wordsworth, would feel a repugnance to the constant exercise of such a power. It would seem, too, that the spirit of humour which pervades, in so rich a vein, the writings of Swift, springs in a great degree from the vivid, life-like pictures he draws of conduct and manners, which are themselves deeply imbued with qualities that are ridiculous and absurd. But it is also a demonstrable fact that the organ in question is much larger in Swift than in Wordsworth.

Even supposing a thing, however, which is contrary to fact, that the cerebral development of Swift, with regard to this organ, is opposed to the views of Gall and

Spurzheim, it must be equally opposed to the supposition that the organ in question imparts the power of searching beyond the surface of things, and of investigating the springs of human action; for surely Swift possessed this power in no stinted measure. He had it, however, not through the intricate mazes of metaphysical speculation, but from a rare faculty of observation, at once comprehensive and minute, which enabled him with instinctive rapidity to estimate the conduct and intentions of men. Individuality and Eventuality are singularly large in the mask of Swift, and Comparison is a characteristic feature.

The head of William Godwin would prove a stronger case to support this conjecture than that of Sterne; for the organ of Wit, or the sense of the ludicrous, is prominent in the head of Godwin; and yet there do not appear in his writings indications of his having been actuated by a strong sense of the ludicrous, while it is universally allowed that he possessed rare capacity for portraying with great force and distinctness the depth and complexity of human motives. Such power we have already seen is not incompatible with a talent for wit and humour. But the genius of Godwin bore the impress of complexional despondency. His intellect was reflective and speculative in a high degree. He seemed to possess greater strength when sounding the depths of human motives than when narrating the actions arising from them. At least, such speculations seemed to afford more gratification to himself than the mere recital of adventures. And we find, accordingly, that the organs of the reflective faculties are very large in the cast of the head of Godwin, while the organ of Hope is very small. Such a combination accounts for his notions regarding the vanity of human

wishes. It would tend to engender a proneness to delineate the house of mourning rather than the house of feasting. Hence arose those powerful descriptions of the dark and selfish passions, which induce some men to bring ruin upon innocent, unoffending victims ; and which he shews are certain, sooner or later, to overwhelm with irremediable degradation and misery the authors of such calamities. An ardent sympathy for the happiness of mankind was a leading feature of Godwin's mind ; though his mode of accomplishing this object may not have been dictated by mature wisdom, nor always by a refined and delicate regard for the moral sense of others. He had, however, the good of his species at heart ; and the earnestness which characterized his early pleadings for the supremacy of justice was only equalled by the serene and chastened glow which warmed and illumined those eloquent pages which he dedicated in the evening of life to the praise of benevolence and charity.

Possessing such a cast of mind and being, moreover, somewhat reserved and probably distrustful, it could scarcely be expected that Godwin would indulge in a ludicrous or sportive strain of composition, notwithstanding the size of the organ of Wit or Gaiety. And the mask of Godwin, unlike that of Curran, is but of moderate development, relatively, in the region of Individuality or Eventuality.

From a passage in Fleetwood, a work which is strongly indicative of the leading characteristics of his head, I infer that he did not, like Curran, distinguish himself in society by the wit and poetic brilliancy of his conversation. Yet Godwin's warm friendship for John Philpot Curran, and their frequent and familiar intercourse, are strong marks of his capacity for the enjoyment

of wit and humour. And, moreover, I have heard from one who knew him well that sometimes his manner of noticing the *outré* conduct of others in company was peculiarly droll and sarcastic.

A case just now occurs to me which may serve to put this matter in a clearer point of view. The cast of Dr. Samuel Johnson, taken after death by the desire of Sir Joshua Reynolds, shows a large development of the organ of Wit and Gaiety. Yet the writings of that remarkable man were not characterised by sportiveness of manner, nor were his sentiments conveyed in language at all tinged with a mirthful or ludicrous colouring. Johnson, however, prided himself upon what Godwin considered a poor criterion of mental superiority, namely, brilliant conversational powers, a mode of intellectual display which is calculated to draw out whatever sources of wit and humour an individual may be endowed with. "Though usually grave," says one of his biographers, "and even awful in his deportment, he possessed uncommon and peculiar powers of wit and humour, he frequently indulged himself in colloquial pleasantry, and the heartiest merriment was often enjoyed in his company, with this great advantage, that it was entirely free from any poisonous tincture of vice or impiety, it was salutary to those who shared in it."

Here, then, is an instance of an individual possessing uncommon capacity for the oral display of humour whose writings were nevertheless free from indications of his being largely endowed with such a talent. But though possessed of this power he used it sparingly, if at all, in his writings, as he probably considered it beneath the dignity of his subject, when essaying to depict the charms of virtue, to derogate from the stateliness of an ethical

discourse by the introduction of anything that bore the semblance of frivolity.

These two cases, especially that of Johnson, show plainly that we are not warranted in pronouncing authors to be destitute of wit or humour, because no indications of their having possessed such faculties appear in their writings. Nor should we be surprised at finding in such individuals a good development of the part of the head which I am now considering.

It has been somewhere noticed, but I am sorry I cannot now remember where, that in the cast from nature of that able and successful navigator, the late Sir Edward Parry, the organ of Wit, as it was called by Gall, was large, and that nevertheless he was not known to be either witty or humorous.

I am not aware, however, of any facts having been adduced to show that Sir E. Parry was devoid of zest for mirthful and humorous exhibitions. And it happens that I possess information which may throw light upon the subject.

A particular friend of my own, who had a short time before joined the third battalion of the 60th Regiment at Halifax, in Nova Scotia, dined with the Governor, Lord Dalhousie, in January, 1817. On that occasion, Mr. Parry, then First Lieutenant of the "Niger" frigate, commanded by Captain Samuel Jackson, sat next to my friend, who has informed me that, at that time, some of the officers in garrison joined those of the "Niger" frigate in getting up a private theatre, wherein they might exercise their histrionic talents, with the view of rendering the dreary winter's evenings of that cold region more agreeable. Lieutenant Parry took a leading part in the performances. And my friend, who was ardently attached to the drama, and was

a good critic as to the merits of an actor, especially in comedy, said that Parry was little inferior to Dowton in the characters of Old Rapid in a "Cure for the Heartache," and in Sir Abel Handy in "Speed the Plough."

Imitation is a marked feature in the head of Sir E. Parry, but he could not excel, as he did on that occasion, in comedy, without being endowed with a strong sense of mirthfulness and humour.

The form of Sir E. Parry's head, therefore, affords evidence of the existence and position of this organ.

The organ is very large in the cast from nature of the late celebrated comedian, John Reeve, much larger than it is in the original mask of Oliver Cromwell; and yet it would be deemed preposterous to think that he possessed the powers ascribed to that organ by the writer alluded to, in such abundance as did that "Sagest of Usurpers." While Cromwell, though sometimes given to indulge in drollery and vulgar practical jokes, would have but a poor chance of successfully coping with Reeve in the power of exciting laughter by the singular drollery of his acting.

The organ is very large in the cast of that inimitable actor Elliston, and in that of Terry. It was very salient in Liston and Richard Jones; and in many others, both male and female, who distinguished themselves in comedy, as is clearly indicated by the best portraits of every one of them. In the mask from nature of Mrs. Siddons, there is a fine masculine development of the organs of the perceptive and reflective faculties; but that of gaiety and humour is very moderately developed. Yet no one can doubt that she possessed great power in the discrimination of peculiarities of character; while no proof of a love of the ludicrous was ever displayed in her wonderfully fine dramatic delineations. In the mask of that most charming

of actresses. Miss O'Neil the forehead is beautifully developed, and the organ of Wit and Mirthfulness is large; and Miss O'Neil excelled in comedy as well as in tragedy. But comedy did not seem equally suited to the incarnate genius of the Tragic Muse.

This organ is large in the portraits of Thomas Hood, the Reverend Sydney Smith, the author of "Ingoldsby Legends," and the authors of "Rejected Addresses." And it is a marked feature in the photographic likenesses of writers of the present day who are distinguished for wit and humour. On the contrary, the same organ is but scantily developed in individuals who seem incapable of appreciating such mental qualities. Neither is it a characteristic feature in the heads of those who though capable of enjoying wit and humour are nevertheless not given to indulge in the display of such a talent. In the mask of Charles James Fox, taken after his decease, there is a fine development of the perceptive and reflective organs, but the one under consideration is certainly not salient. In conversation he could be instructive, fluent, and exceedingly agreeable. His powerful perceptive and reflective organs enabled him to acquire with rare facility, and to comprehend a vast amount of knowledge, which gave vivacity to his discourse. His predominant organ of Language afforded him fluency of expression, and his trustful, sanguine, and singularly amiable disposition (for according to his friend Edmund Burke "he had not one drop of gall in his constitution,") rendered his companionship interesting in the extreme. But though Fox was not distinguished as a wit or humourist, he could not, to judge by his mask, be wanting in zest for humour. But that it was not a marked quality of his mind is what might be predicated.

A remark of Curran's, who knew Fox and greatly admired his talents, would lead one to suspect that the latter was generally thought to be averse to humour and drollery. "I am not sure," said Curran, "that Fox disliked humour, for when I indulged in trifles of that kind I thought I saw a smile rippling over the mild Atlantic of his countenance." Is not this in itself a graceful and poetical example of wit founded upon far-fetched analogies?

O'Connell was endowed with great width and roundness of the forehead where it covers the convolutions of the brain which constitute the organ of the sense of the ludicrous. And the late Daniel Whittle Harvey told me, when alluding to the intellectual characteristics of his most distinguished contemporaries in the House of Commons, that he never saw a man who could bear O'Connell's ridicule.

Amongst the many signal instances of this, which might be brought forward, there is one that I am tempted to narrate so far as memory serves me. It happened subsequent to the attorney-generalship of that eminent Chancery Barrister, the late Sir Charles Wetherall. The "great agitator" in the cause of civil and religious liberty, who was then at variance with the Whigs, was to be seen sitting on the opposition benches, then occupied by the Tories, but still without abating a particle of his old bitter hostility to that powerful party. On one of these occasions he happened to seat himself by the side of Wetherall, which caused the latter to appear restless. And when he arose to speak, he did not refrain from giving utterance to his disgust at the intrusion within their precincts of persons who, by their habits and manners, were utterly unfit to sit near them. O'Connell got up instantly, and said,

“Mr. Speaker, I am sure the House will bear with me while I endeavour to repay the honourable member for the lesson on the principles of politeness which he has given to us all, though it was particularly meant for my edification by this exquisite specimen of grace and urbanity. Oh! Sir, the Prince of darkness is a gentleman, they say, and Wetherall is his name, or Bother-all. And here he is now come, this *Majister Elegantiarum*, with his rollicking rodomontade, to tutor us into good manners. Indeed, the only lucid interval I could ever detect in this gentleman, lies between his waistcoat and pantaloons.” Sir Charles, who was remarkable for carelessness as to his costume, never again ventured to come into collision with O’Connell. This part of the forehead is very marked in the bust of the Reverend Arthur O’Leary, who was distinguished for the exquisite pleasantry of his conversation. An instance of O’Leary’s genius for wit and humour was told to me many years ago by one of the partners of the firm of Keating and Brown, the Catholic booksellers, of Duke-street, Grosvenor-square, upon my happening to remark one day in his shop that the bust and mezzotint engraving of that liberal and upright friar, which stood in the window, were both remarkable for the cerebral forms, which are symbolic of talent for wit and humour. “Well,” said he, “I will give a striking instance of the correctness of your conjecture. When in London, Mr. O’Leary happened to call here one evening, and he remained conversing with me in the back-shop until the clock struck ten, when he arose to go home. And upon attending my honoured guest to the outer door, I was surprised to find that I had forgotten to close it properly, or even to have the window shutters put up at eight o’clock according to my custom;

so rivetted had my attention been for three hours by the sprightly wit and humorous anecdotal powers of Arthur O'Leary.

There cannot be a doubt, then, of the separate existence of a power of the mind so prevalent, and one which exercises so exhilarating and beneficial an influence upon both the mind and the body. But to what class of faculties does it belong? Not to the intellectual, for all the highest operations of the intellect have been manifested in the sciences without being in the slightest degree associated with this faculty. Not to the moral sentiments, the presence of each of which is absolutely essential to the well-being of society. It does not belong to the animal propensities, for they, too, are indispensable. It would seem to be a superadded faculty—one admirably adapted to render us happy and joyous, formed to check the impetuosity of anger by timely sallies of mirthfulness and good humour, and when properly directed, capable of clothing the purest maxims of morality in a garb so fascinating as to render their passage to the heart more rapid, and their impressions more enduring. Byron, in alluding to this power in Horace writes thus—

“Nor livelier satirist the conscience pierce,
Awakening without wounding the touched heart.”

But like every attribute of the mind, it is subject to be abused, for when it is combined with a sour, envious, malignant disposition, it takes pleasure in turning into ridicule even things which in time of need have been the solace of the virtuous and the highminded. The mischief of its abuse, however, sooner or later recoils upon its possessor, for he becomes an object of aversion

to most persons—one to whom the warning of the poet, Horace, might with propriety be applied—

“Fænum habet in cornu, Romane caveto.”

This faculty should be placed in the same class with Ideality. They both imbue the mind with their own peculiar qualities. Ideality invests it with the charms of grace, elegance, and beauty. This clothes it in the fantastic robes of jest, jollity, and laughter.

IMITATION.

WRITERS on mental philosophy have admitted the existence of a special faculty of Imitation, and dwelt upon its importance, but some have supposed its sphere of action to be much more comprehensive than a closer observation of facts would justify. They seemed to imagine that upon this faculty depended the power of acquiring knowledge. A little reflection, however, will shew such an opinion to be erroneous. The kinds of knowledge are various, and so are the capacities of individuals. Experience also teaches that it is not those who are endowed with the strongest imitative powers that excel in the acquisition of knowledge. And it is notorious that many who have been remarkable for quickness of apprehension were by no means noted for powers of imitation. The imitative faculties of the monkey, the parrot, and the mocking-bird do not enable them to acquire knowledge. Neither can the mimic, however extraordinary his powers of imitation, be at all considered on that account proportionably superior to others in intellectual ability. Successful actors display more marked imitative talents than men in other professions, but yet we do not, therefore, find them excelling others, who have but little capacity for imitation, in literature and the sciences. The late Charles Mathews was an exceedingly clever man, with rare talent for discerning,

with uncommon accuracy, the peculiar manner of individuals, and a power of mimicry almost unrivalled, and yet he could not write such "valuable nonsense" as his friend, James Smith, one of the authors of the "Rejected Addresses." Nor could even Shakespeare himself personify his own "Hamlet" with so much truthfulness and power as did Garrick and Kemble.

But although Imitation is, in accordance with a general law, incompetent to perform the functions of other powers, it may rightly be deemed an efficient auxiliary in exciting them to action. It tends to fix the attention of the intellectual faculties with the view of obtaining materials for its own gratification. Hence its importance in early life, when the germs of our future conduct and acquirements are planted on the tender and susceptible brain of infancy. How admirable, therefore, is that provision of nature which has caused this to be one of the first faculties manifested in childhood! But in proportion to the advantages arising from the early development of this faculty would be the mischief of subjecting children to the contaminating influence of bad example. It must not be forgotten, however, that the effect of example is necessarily modified by the predominance of certain sentiments and feelings; for an individual possessed of much imitative power, who is also endowed with high moral sentiments, will be far less warped by bad example from the path of rectitude than one whose moral sense is not so active, although the latter may be but scantily endowed with the faculty of Imitation. Nevertheless it is certain that where this talent is strong there is a tendency in individuals to copy the manners and habits of those with whom they associate, especially if the manners be marked by striking peculiarities. The capacity for imitation is, however, circumscribed by the

sphere of activity of other powers. No amount of the imitative faculty can enable one, who has no ear for music, to copy the musical characteristics of musicians and singers. Some mimics are more successful in portraying peculiarities of manner and gesture; others the inflections and tones of the voice. In the latter, Tune will be always found large, in the other, Form will be a prominent feature.

Some persons possess extraordinary powers of imitation without being remarkable for quickness of perception or profundity of intellect. Indeed, some idiots have an irresistible propensity to mimic what they see done; and among animals the mocking-bird is a striking example of the presence of this faculty. In these cases its force is circumscribed within comparatively narrow limits; for, although the intellect does not confer this power, it materially enlarges its sphere of action. This faculty, for instance, is essential to the dramatic performer; but yet his excellence does not depend solely upon the degree of the development of its organ, for this may be great and yet its possessor be a man of mean ability as an original actor. He may, however, have the power to imitate the manner of a great performer but could not originate a noble and natural style of acting, such as Garrick, Kemble, Kean, Mrs. Siddons, and Miss O'Neil, were famed for. Such excellence can never be attained in the absence of a considerable endowment of the intellectual faculties, as well as of the sentiments and propensities; for to delineate human passions with natural propriety and force can only be effected by one who is capable of instinctively feeling them strongly, and whose powers of observation are of a very high order. It is only when in combination with such abilities that the faculty of Imitation enables any

one to become an actor of original genius as contrasted with a mere mimic.

The simple faculty of Imitation cannot, then, be looked upon as a purely intellectual power, though it exercises great influence over the manifestations of the intellectual faculties. That it is a primitive power may be inferred from the fact that idiots, in some cases, evince an irresistible desire to mimic whatever they see done. But to the phrenologist such a reasonable inference would not be sufficiently conclusive. He looks to nature for the foundation of all his opinions, and nature being consistent and constant in all her doings he rests satisfied when she presents him with phenomena which are invariably productive of certain effects, and which effects never arise without the presence of these phenomena. In looking to nature, then, it is found that, whenever an individual who excels as a mimic is met with, he is sure to have the convolutions lying on each side of Benevolence very large.

It is, indeed, a fact established beyond doubt that the propensity to mimic will always be proportioned to the size of that part of the brain; but the effectiveness of the imitation will depend upon the clearness and precision with which peculiarities of character may be impressed upon the mind of the imitator through the medium of the intellectual faculties. This part of the head, for instance, though large in the elder Matthews, is yet not so prominent as I have seen it in some men who could not cope with him in mimicry. But the perceptive organs were very large in Matthews, much larger than in those to whom I now allude.

The organ of Imitation, then, lies on each side of Benevolence. It is broader anteriorly than posteriorly, and is

about an inch and a half in length and half an inch in breadth. This organ is very salient in the heads of celebrated actors. I have carefully examined the portraits and casts from nature of a great many of them. In the casts of Elliston, Terry, John Reeve, and Matthews, who excelled in comedy, each after his own manner, the organ is very large. In the portraits of Liston it is particularly prominent.

It is strongly marked, also, in the masks from nature of Talma, Kean, Mrs. Siddons, and Miss O'Neil, who excelled in tragedy.

This distinction is purposely made lest it might be supposed, from a passage in Gall's works, that this organ was more especially devoted to comedy, for in the fifth vol., p. 203, of the American translation, he says, "There is no doubt that it is to this organ we are indebted for comedy." And he further says, "In the house of correction at Munich we saw a thief, who had this organ rather developed. I told him that he was a comedian. Surprised at this discovery he confessed that he had for some time made part of a strolling company." It appears to me, however, that Gall did not mean to confine the action of this organ to comedians, for, further on, he remarks that "The variety of other organs, which accompany that of Imitation, constitutes the difference in actors." It may here be observed that in the first-rate comedians the organ of Imitation is always accompanied by strong and well-combined intellectual organs, crowned by a protuberant organ of Mirthfulness, which gives a decided bias towards comedy. It was the supremacy of this last-named organ which rendered Liston the inimitable laughter-creating actor that he was; although the natural sedateness of his general character led him to

think, it is said, that his talents were better adapted to tragedy. In the cast of that excellent actor, Mr. John Cooper, the organ of Mirthfulness is very moderately developed, and consequently he took care not to meddle with such characters as those the performance of which rendered Liston and Elliston famous.

The organ of Imitation is very large in the portraits of Garrick, Kemble, Young, and Mrs. Siddons, in Mrs. Centlivre, Catherine Clive, Peg Woffington, in Wilks, Macklin, Foote, and many others of the olden time. It is also very salient in the best prints of Munden, Knight, and that paragon of sprightly characters in genteel comedy, Richard Jones. In these, the organ of Mirthfulness is also very prominent. The organ of Imitation is exceedingly large in the cast of Clara Fisher, who, though but a mere child, astonished every one by her finished performance of Richard the Third, and other equally difficult characters. It is remarkably conspicuous in the cast from nature of Master Burke, who, in his native place, Galway, surprised and delighted the late Baron Smith of the Irish exchequer by his performance on the violin when he was only about four years old, and at the age of six he excited admiration by his admirable performance of several comic characters on the stage. The celebrated Elliston admired him so much that he engaged him, at a large salary, to perform at the Surrey Theatre, where he elicited universal applause. The organ of Imitation is very salient in the portraits of the celebrated musical prodigy, "Lyra," whose wonderful extemporaneous performances on the harp, when only three or four years old, commanded great praise.

It should be borne in mind that the power of reproducing combinations of musical tones depends upon the

organ of Tune, without the aid of imitation, but that the power of imparting the peculiar expression of feeling or sentiment, which the composition was intended to convey, was imparted to those children by a large organ of Imitation, acting upon the organs of the fundamental affections.

To shew that the mode of manifesting the faculty of Imitation is due to the powers which predominate in the mental constitution of an individual, I may mention the case of two gentlemen, who were very amply endowed with this organ of Imitation. They were both ardent admirers of the Drama but one of them disliked the Opera, and indeed musical entertainments of any kind. He was an excellent imitator of peculiarities of gesture, and could thus give considerable force to the outward expression of feeling, but he found it utterly impossible to recall a single bar of music, and consequently failed to imitate the musical peculiarities of others. His organ of Tune was very small. The musical development was, on the contrary, remarkably good in the head of the other, and he not only had a quick perception and strong memory of musical compositions, but also possessed the faculty of giving each note its proper expression, and of imitating with great accuracy the manner and even the tones of those whom he strove to mimic. So strong was the instinct of imitation in this individual that I have seen him, unconsciously, imitating the voice and gesture of a person he was conversing with, whose accent and manner were marked by striking peculiarities. Again, it is not uncommon to find a person, possessed of a fine voice, with a quick appreciation of melody and harmony, whose musical performances will, notwithstanding, appear cold and unimpressive, and wanting in the quality of expres-

sion. In such a case the organ of Imitation will always be found moderate. But if the performer be abundantly endowed with feelings, which the composition is capable of exciting, he will sing with natural expressiveness, even though he possess only a moderate endowment of this organ. Nevertheless, a large development of it would enhance his powers of expression. There are many good musicians with fine voices on the stage; but how few are they who can approach Pasta or Malibran in natural and dramatic expression. The organ of Imitation was very large in both these accomplished women. Of Malibran there was a cast taken some years before her death. In it the organ of Imitation is very conspicuous, notwithstanding the superior size of the organs lying around it. The organ is very large in the cast of Shroeder Devrient, who displayed great dramatic capacity in Beethoven's beautiful opera of "Fidelio."

But it is not to actors alone that a good endowment of this organ is requisite. It is essential to the successful efforts of the painter and the sculptor, and it imbues the poet's genius with a bias towards dramatic composition. This faculty of imitation is not so essential to the landscape painter as to him whose genius is devoted to the delineation of historical figures and portraits. A picture or a bust may be tolerably true to nature as to form and size, but it may still be flat and spiritless as to life-like expression.

I have always found this organ large in those artists who have excelled in giving characteristic expression to their portraitures. In the fine print of Michael Angelo, by Longhi, after a picture by the great original himself, the organ is very conspicuous. The same conformation is a predominant feature in a fine modern print of Raphael

without a cap, engraved in line after a picture by himself, and also in Albert Durer and all the great masters who excelled in delineating the human form, and in imbuing it with the natural expression of the character represented. The mention of a few casts from nature may not be unimportant. In Barry and West, in Fuseli and Flaxman, in Canova and Lawrence, the organ of Imitation is very large. In the mask of Lawrence it is remarkably developed, and his works afford a fine illustration of the qualities attributed to this organ. It is salient in the mask of Macclise, whose works are singularly dramatic. I should have mentioned, when alluding to actors, that a marked prominence in this part of the head in private persons is sure to be accompanied by a passionate love for theatrical performances. And I could adduce many instances of its large development in men who have distinguished themselves as amateur actors. It is large in the cast of Sir E. Parry, whose success in the parts of Old Rapid and Sir Abel Handy, I have noticed when treating of the organ of Mirthfulness.

I have already said that this faculty, when strong, gives a dramatic tinge to the productions of poets and writers of fiction. It is prominent in the heads of Æschylus, Sophocles, Euripides, Aristophanes, and Menander. In Shakespeare and Corneille it is very prominent. In the cast from nature of Sir Walter Scott the organ is very marked, and his writings are eminently dramatic. To the orator this organ is a powerful auxiliary. It enhances in an eminent degree the sympathy of his listeners by enabling him, without effort, to "suit the action to the word." Without it the finest discourse will often be deemed spiritless and unimpressive. History tells us of the pains taken by Demosthenes to overcome the ill-effects

of his being but scantily endowed with this faculty, and Cicero, who is said to have been as defective in action as Demosthenes, took lessons in elocution first from Rossius, the comedian, and then from Æsopus, the tragedian.

This faculty enables us to copy the manners of those with whom we associate, but oddity or marked peculiarity of deportment is particularly calculated to arrest attention. A friend of my own, in whose head this organ was extremely prominent, often unconsciously imitated the gestures of those who were speaking to him. He was, at one time, in the habit of conversing with a friend, whose mode of speaking was characterised by much gesticulation, and it was curious to observe on those occasions how much his own manner and tone of voice were imbued with the peculiarities of his friend—peculiarities which he certainly had no wish to copy. Subsequently he seldom met with this individual, and soon no traces of resemblance remained.

This case clearly shews that the instinctive gesticular expression of the mental affections, which has been called the natural language of the individual, is permanent, while that which is acquired by imitating those whose dispositions differ much from one's own are transient. A man with very large organs of Self-esteem and Firmness, for example, will be stiff in his gait, with the upper back part of his head much elevated and drawn backwards. Another, having these organs small, but possessing a large organ of Imitation, may counterfeit this peculiar attitude successfully, but its continuance would be irksome and impossible to the one, while to the other it would be appropriate and easy.

This natural adaptation of external expression to the

prevailing affections of the mind indicates the cause why a mimic or an actor has more trouble and is less successful in personifying some characters than others. A powerful imitator, who is naturally proud, will delineate a haughty character more forcibly than it can possibly be done by one who is instinctively meek and humble, however excellent his talent for imitation may be. This fact is every day verified on the stage. Who, that has seen them, could forget the grandeur of Mrs. Siddons and of Pasta, and the exquisite tenderness mingled with power of Miss O'Neil and Malibran. Some actors, like Miss O'Neil, possessed great dramatic versatility. Garrick was as successful in Abel Drugger as in Richard the Third, in The Lying Valet, as in Hamlet. Miss O'Neil was as true to nature in The Widow Brady as in Mrs. Haller, in the exquisitely tender and unselfish Juliet as in Lady Macbeth, in Mrs. Oakley as in The Mourning Bride. Elliston, also, was an actor of versatile powers, but he excelled all his cotemporaries in genteel comedy. Kean's versatility was great. How opposite are the characters of Lear and Richard! and yet he was equally successful in both. How striking were his transitions in Junius Brutus, Luke, and Ruben Glenroy; and in Abel Drugger, which he performed in London for his own benefit, he was eminently successful.

It would have been impossible for these great actors, be their intellectual powers ever so conspicuous, to personify to the life such opposite characters, if they had not been endowed with a fair admixture of those affections which formed the leading features of those characters. But, on the other hand, if they had not possessed this power of imitation in an eminent degree, they never could have called forth at will the natural outward expression of those affections.

Here the peculiar function of the organ of Imitation becomes manifest. A proud, ambitious man, for instance, violent and impetuous, who finds his reputation wrongfully assailed on a tender point, will give way to impassioned ebullitions of rage, quite as expressive, and more true to nature, than the efforts of the greatest actor, without calling into play the faculty of Imitation at all; but, without a good organ of Imitation, he would find it totally out of his power to act such a part with the like degree of truthfulness, when the feelings were not really engaged.

It has been said that a proneness to indulge in mimicry is a concomitant of an ill-natured disposition, and I have been informed that a phrenologist has publicly declared that the organs of Benevolence and Imitation are never found large in the same head. Both these opinions are decidedly wrong. They seem to be entirely conjectural. Indeed, some of the most kind and amiable characters I have ever known were good mimics. And as to the other assertion, I am quite sure that no man extensively acquainted with the evidences of Phrenology could hazard such an opinion.

The organs of Imitation and Benevolence are both very large in the casts of Malibran, Mrs. Wood, Elliston, Terry, and Kean. These were all remarkable for generosity of character, and the performance of Elliston as Walter in the "Children in the Wood" was a most affecting personification of Benevolence.

The very position of the organ would show that it is not necessarily akin to ill-nature. On the contrary, the fact of its being among the organs of the noblest attributes of human nature, both moral and intellectual, indicates that the Creator intended that the legitimate exercise of it should be directed to the copying of virtuous actions

and the enhancement of the effectual manifestation of the intellectual faculties.

It is hardly necessary to observe that the faculty of Imitation is not opposed to originality, for the numerous examples that have been adduced prove that those actors who imitated nature most successfully were always deemed the most original, and it will never be denied that Shakespeare who, in his writings, imitated nature to the life was the most original of poets.

It will, I trust, have appeared clear that Imitation is a fundamental power of the mind, which is possessed by some birds and other animals as well as by many idiots. And in referring to its early activity in childhood, I have endeavoured to show that the obvious propensity to imitate, manifested at that early period of life, does not altogether depend on this faculty, since a child with strong musical tendencies will endeavour to imitate melody and harmony from the mere force of his organs of Tune, Time, &c., and that every faculty when active tries to imitate whatever it sees done that falls within its own sphere. But this kind of desire to imitate differs from the fundamental power which I am now considering, for this primitive faculty gives the tendency not only to imitate what is done, but also to copy the peculiar manner of the doer. I have shewn that from its organ being large in the most eminent dramatic actors, it gives the ability to delineate the natural expression of the passions with as much truthfulness as if their manifestation were the result of really excited feelings, and that the organs of those feelings must also be well-developed, but yet that a great development of those organs could never, without an ample endowment of the organ of Imitation, evince at will the natural expression of feeling, which actors of first-rate

eminence are, without any adequate internal motive, capable of displaying.

A rather laughable illustration of this is mentioned in the accounts of Garrick's career. A townsman of his came all the way from Litchfield to London to see him play; and, after witnessing his performance of Abel Drugger, he returned home immediately, quite disgusted with the great actor, for he said he was the meanest wretch he had ever seen in his life.

I have endeavoured to shew that this faculty renders the poet dramatic, that it enables the musician, painter, and sculptor to give natural expression to their compositions, and that the orator, without an adequate share of it, can never become a successful elocutionist. In fine, I have adduced numerous examples to prove that the talent for imitating is always, *cæteris paribus*, in proportion to the development of that part of the head which lies on each side of Benevolence and just above Causality.

THE INTELLECTUAL FACULTIES.

I HAVE hitherto been engaged in analyzing and delineating the faculties which Spurzheim denominates affective. Some of these, as we have seen, man possesses in common with the inferior animals, while he is the exclusive possessor of others. Experience clearly shews that these feelings have been bestowed upon all living beings in a different measure; and that the more complicated the cerebral organization of any species of being, the more evident is the disparity in the degree of its several mental endowments. All these faculties are emotional. They are blind and impulsive. Even the most noble and divine of the moral and religious attributes are liable, through this blindness, to lead to disaster. Where then is to be found an effectual corrective? Where but in those faculties which enable us to acquire knowledge and experience, to discriminate between opposing motives, and to comprehend the various results which are likely to ensue from the dominant influence of any one of them.

That the manifestation of these feelings depends entirely upon the brain is proved, beyond any doubt, to be an established fact, a fact which nothing but unthinking prejudice could ever venture to deny. Nor would it be less irrational, after using all due diligence in searching after truth at Nature's shrine, to doubt, or attempt to gainsay, the overwhelming evidence which is recorded in

all parts of the civilized world in proof of the fact that, with the exception of the frontal lobe or forehead, the rest of the brain is composed of the organs of the animal propensities and of those of the moral and religious sentiments. It is well to observe here that, as our conduct and manners are more influenced by the feelings than by the intellect, it follows that the bulkiest part of the brain should be occupied solely in their manifestation, according to the universal law, that largeness, all other conditions being equal, indicates superior power.

The comparative smallness of the intellectual division of the brain renders the satisfactory demonstration of the thirteen organs of which it is proved to be composed somewhat difficult to those who are beginning to study this science. But a conscientious examination of the evidence accumulated by phrenologists, will allow no doubt to exist on the mind of any one that the intellectual faculties are as numerous and distinct as phrenologists affirm them to be; and that the appropriate organ of each of these faculties has been thoroughly established, both by positive and negative evidence, is beyond question palpable.

To those who suppose that perception, memory, imagination, and judgment are elementary faculties, which together constitute the understanding, the assertion that the human intellect is composed of thirteen organs, each of which discharges a function which is perfectly distinct from any other, will appear preposterous. But it has been shewn already that metaphysicians have been greatly in error when they imagined that perception, memory, and imagination were primitive faculties, for they are nothing more than modes of action of the fundamental

powers. Memory and imagination, therefore, must be as various in kind as the faculties, since it is obviously contrary to nature that the faculty which perceives and remembers musical tones should, also, be capable of calculating and remembering their numbers. Neither is the power which perceives the local position of things fit to appreciate the order in which they are placed. Nor can that which alone is capable of gaining a knowledge of their size, give the slightest intimation of their colour, or their weight. As well might it be said that the nerve of hearing can give the power of seeing, or that the nerve of seeing can impart the sense of hearing.

When Descartes propounded his views respecting the certainty of the innateness of ideas it is probable that by the word ideas, he meant faculties, which his own intellectual instincts naturally prompted him to look upon as being innate, and not dependent for their existence upon experience. And when Locke denied the innateness of ideas it is evident that he avoided that confounding of terms, for though he considered the mind to be like a *tabula rasa*, or sheet of blank paper upon which images of outward objects are impressed through the medium of the external senses, he yet shows evidently that he did not at all consider this *tabula rasa* to be in all its attributes a passive recipient of impressions. This great philosopher, most profound thinker, and accurate definer, justly conceived that ideas of the existence and special attributes of these images were conceived by the mind—this *tabula rasa*—through the agency of its internal faculties or senses, which had their seats in what he named the sensorium. These he denominated ideas of sensation, and by the term idea he meant “whatever a man observes, and is conscious to himself he has in his mind.” But, as the mind is

capable of comparing, composing, and abstracting, it forms new ideas by a perception of its own operations, and these he calls ideas of reflection. The former he calls simple ideas, the latter complex. All knowledge is thus said to be the result of the experience of sensation or of reflection, and this experience is owing to "the observations of the mind employed either about external sensible objects, or the internal operations of itself, perceived and reflected upon by its own faculties."

But if all our ideas of sensation be derived from experience alone, how comes it to pass that the new-born babe instantly turns to its mother's bosom for its life-preserving food; or how is it that the duckling, hatched by a hen, will, after breaking through its shell, very soon run into the water, to the great dismay of its anxious foster-mother? And how can we thus explain why the egg of the song thrush, hatched with those of a bird that does not sing, will produce a bird that does sing, if it be a male, while the issue of the others will be perfectly tuneless? And, moreover, it may well be asked how it happens that the female offspring of singing birds are never known to sing? And yet they have the same opportunities of experiencing the pleasing sensations caused by the parent's song as their male brethren. And it cannot be supposed that their external sense of hearing is less acute.

To nullify the importance of objections like those, which are evidently fatal to the soundness of the foundation upon which Locke has reared his famous temple of mental philosophy, it has been said that those tendencies and special individual characteristics of animals fall within the sphere of mere instincts; and, strange to say, an enlightened and devoted disciple of Locke's, Dr. John

Mason Good, supposes that such evidences are not admissible as facts subversive of Locke's theory, which, he says, is by no means affected in its fundamental principles by such collateral circumstances, for that there are certain instincts having no connexion with mind.

Surely this is assuming too much. Can it be said that the tuneful fervour of the Nightingale is an instinct unconnected with mind, since man too has the musical instinct? Can it be pretended that in him it is not connected with mind? Indeed, there is not one instinct possessed by animals with which man is not amply endowed. Every instinct is therefore connected with mind. And since it must be admitted that instincts do exist and are manifested independently of experience, how can it be justly assumed as a fact that the mind, of which instincts form intrinsic ingredients, is nothing more than a sheet of blank paper, as it were, until the lessons of experience are impressed upon it? It is not presumptuous to say that there is a want of logical consistency in such an assumption.

This theory of Locke is indeed totally inadequate to throw a ray of light upon the true and pure fountains, whence spring those diversities of talents and dispositions that so happily tend to foster the division of labour, and thus minister to the rapid progress of arts and sciences, and which serve also to hasten the wide-spread prevalence of beneficence and justice, by affording no excuse for harbouring the baleful influence of envious rivalry. How, for instance, can his single faculty of perception be capable of appreciating all the varied perceptions of the understanding which are in their intrinsic nature so palpably distinct from one another?

It is to Phrenology alone, of all the systems of mental

philosophy, we are to look for a light to guide us to those fountains, so long and so hopelessly sought after. And it is no idle assumption to aver that that much neglected science affords the only means of effectually analysing the operations of the mind and of discovering and demonstrating the actual and relative power of its primitive independent faculties in any individual.

Before I describe the local position of the organs of which the forehead in mankind is composed, it will be right to state that all through the animal creation sagacity and docility are always, without a single exception, in proportion to the favourable development of the anterior lobe of the brain. For not only can gradations of development be readily traced upwards from the skulls of the most savage and indocile creatures, such as the crocodile and the ursine opossum, till we come to the most sagacious of the dog and monkey tribes; but also in animals of the same species, and even in those of the same brood, great differences are perceptible in the size and shape of the frontal lobe. Indeed, a long course of scrupulous and careful investigation of a vast number of the skulls of animals of all kinds, both wild and domestic, emboldens me to aver with confidence that the measure of sagacity in any of the inferior creatures is always in proportion to the width and height of the frontal portion of the skull which embraces the anterior lobes. But, owing to the smallness of the brains of most animals, it may not be possible to subdivide these lobes into their separate organs. Still organs that are specially characteristic may readily be singled out. Such, for instance, as the organ of music in singing-birds. Even in the diminutive skull of the canary it is easy to discern the superior development of that organ in the male bird. In the sub-dividing of the

human forehead no such difficulty presents itself; for, though it is composed of many organs, its ample volume affords sufficient room for drawing distinct lines of demarcation between them.

The dividing of the human forehead into three grand regions, each of which consists of a number of parts called organs, which perform different functions, is sanctioned by an unvarying law of nature. The first portion occupies the brow, just above the nose and eyes, and stretches across as far as the external angle of the orbit, which it includes. In this division are contained the organs which perceive and remember external objects, their special qualities, such as form, size, weight and colour, and the relation they bear to one another in regard to their local position, their order, and their number. The next division lies just over these, and extends across to the temples, having the organs of Music and Constructiveness at either end. This comprises organs that take cognizance of facts and phenomena, whether these consist of external occurrences, or of the acts and states of the mental faculties themselves, with those of Time and Melody, upon which rhythmical harmony depends; the third, which embraces the two purely reflective organs of Causality and Comparison, occupy the superior portion of the forehead, except at its outward angle, where it comes in contact with the temple; for it is at that spot the organ of Wit in the Sense of the humorous and ludicrous has its seat. Besides these, there is the organ of Language, which does not lie amidst the others; but yet it is placed so as to be in close contact with all of them. For, while they take a direct course from behind forward, the convolution, which is the organ of Language, takes a transverse course, which causes it to come into intimate contact with the convolu-

tions that go to form all the other perceptive organs. And, though it lies more than an inch behind the eyebrow, its size can yet be truly estimated by the position of the eye in the orbit, the very thin superior bony plate of which becomes either convex or concave according to the largeness or smallness of this convolution, which, like every part of the nervous system, enclosed by bone, imparts its own form and dimension even to the rigid substance that invests it; because the priority of its existence renders the nervous and medullary substance a model, as it were, upon which osseous deposits are moulded into shape.

How beautiful is this provision of nature! The most comprehensive human intellect could never have anticipated so exquisite a contrivance. Gall was a long time acquainted with the external appearance of the organ of Language, without being aware of its mode of connexion internally with all the other perceptive organs.

The providential wisdom of this connexion is obvious, since it is manifest that artificial vocal or written signs are indispensable to the spread of whatever knowledge the other faculties are individually or collectively capable of attaining. The organ of each of them is consequently blended, or rather placed in contact with that of artificial language. For the more closely mental tendencies are naturally formed to associate, the nearer their organs are found to approximate. There is not any necessity, for instance, that the convolution which is the organ that takes cognizance of events should have its place immediately adjoining that of melody, in order to make known its requirements. But, without being functionally and physically associated with that of artificial language the acquisitions of eventuality would be comparatively

incommunicable, and be as useless to others as the treasures closely hoarded in a miser's coffer.

The local positions and functions of the organs of the intellectual faculties come now to be considered.

INDIVIDUALITY.

THIS is the name given to the first of the perceptive organs by Spurzheim. And a very appropriate name it seems to be in an abstract point of view. But it hardly conveys at first an adequate idea of the essential nature of this faculty. This is done by Gall with more distinctness. He calls it the sense of things and the memory of things—the sense and the memory of facts. He also names it educability and perfectibility. It is not possible to misunderstand the meaning of this nomenclature, which is almost entirely in accordance with nature. The organ lies in the centre of the forehead just above the root of the nose.

When the sense of things and facts is very acute, and the memory of them very retentive, there is, of course, a marked capacity for acquiring knowledge. Educability, therefore, truly enough denominates the function of this part of the brain. But only to a certain extent. For, though it is quite certain that there cannot be any intellectual perfectibility without a powerful development of it, it is, nevertheless a fact that this part of the brain may be of paramount size, and yet the talents be incapable of attaining to excellence at all approaching perfectibility. It is indeed a fact, of the truth of which wide experience has convinced me, that some children, with even a protuberant develop-

ment of this central portion of the forehead, have been forced to yield the palm of educability to others whose cerebral development in this respect was by no means equal to theirs.

Educability should, therefore, be deemed too comprehensive an appellation for this portion of the brain. Yet certainly it is the mainspring and stimulator of those other organs which together with it render educability feasible. Unsupported by these its efforts are characterised by desultoriness. And though its knowledge may be various and extensive it will be wanting in the proper balance and just connexion of parts, without which qualities the miscellaneous information, which this group of convolutions is alone capable of gaining, will fall far short of the general and useful results, which, in harmonious combination with other organs, it would enable its possessor to accomplish.

Hence it is obvious that its natural function is to acquire a particular knowledge of things and facts and states of being, and to retain them in the memory in a form somewhat detached from one another.

Individuality is, therefore, a name that designates the tendency of this part of the brain, though it fails to convey to the mind a clear intimation of the kind of knowledge it is in search of.

But as the faculty that perceives things merely in their inert state, and abstracted from their qualities of form, size, and colour, cannot comprehend things in action; and as Gall attributed to this part of the brain the power of perceiving facts and passing events, also, it is but reasonable to think that what he took to be only one organ is really composed of two, though they certainly seem to be closely allied in regard to the nature of their

functions, as each of them takes cognizance of things in detail, though the sphere of action of the one is far more comprehensive than that of the other, as will be seen hereafter.

It is for this reason Spurzheim gave to the upper portion of these convolutions the name of Eventuality. But the title Individuality would apply equally well to both parts, for each of them has the faculty of apprehending separate individual entities, though these entities are in their nature intrinsically different. This diversity of function might fairly be anticipated, since uniformity of shape is not a constant characteristic of this central portion of the forehead. Two notable instances of this fact are to be found in the authentic plaster casts of the great William Pitt and that prodigy in the physical sciences Isaac Newton. In the former the upper portion is remarkably salient, whilst the lower part is relatively of moderate prominence. The latter, on the contrary, is singular for the vastness of its development in the under portion, whilst the upper part, though broad, is not by any means of equal fulness. The plaster mask of Lord Brougham strongly resembles that of Newton. But yet it is not quite so full and prominent in the lower part, though it is comparatively fuller in the upper. In the mask from nature of Sir William Herschell, taken when he was about fifty years old, the same characteristic form is strikingly apparent. And do not these instances afford strong evidence of the truth of the phrenological doctrine which teaches us to consider this organ of Individuality to be an essential ingredient of genius for the physical sciences. And when it is a fact, ascertainable at one of the museums of Paris, that the scull of Descartes is very prominent where the organ of Individuality lies, another

great example in corroboration of this truth is presented to the conscientious observer. And should doubt arise in the mind of anyone as to the authenticity of this scull, the fine print of that great genius in physics and mathematics by Edelinck, offers palpable evidence of the large size of Individuality.

Moreover, the lower convolutions of Gall's organ of Educability are as distinct from the upper ones as they are from those of Locality, which are in contact with both of them. But as they occupy the central region of the forehead without the intervention of any other convolutions, it strengthens the probability that a close analogy exists between their functions. Each has the disposition to seek and the capacity to learn and to remember things minutely, but the lower one directs its attention, solely to individual physical objects, while the upper prompts us to acquire a knowledge of all phenomena, both moral and physical. The lower one, having the convolution, which is the organ of Locality, between it and those of the organ of Time, or the sense of the duration of time, is conversant with individual things as they exist in space; the upper, which lies in contact with the convolutions of Time and Locality, gives its attention to things and facts as they exist both in Time and Space.* The lower is supported on either side, along the ridge of the brows, by the convolutions which constitute the organs of Form, Size, Weight, or the sense of Resistance, Colour, Order, Number, and Locality. Through these it acquires a proper notion of the qualities of objects, as well as their number, local position, and the order in which they lie. It seems to have the faculty of concentrating into oneness the

* See Eventuality.

several attributes of bodies, of perceiving unity. Hence, it has acquired the name of Individuality. One may, for instance, picture to himself a vast multitude of men, congregated in a certain place. The attributes and appointments of these men are perceived by faculties, specially adapted for those separate purposes. But it is this part of the brain that brings into unity those widely scattered elements, and enables us to form the idea of an army, or of a House of Commons. No doubt, it is not so easy to satisfy oneself of the existence of any inert inanimate body, apart from its attributes of form, colour and size. But, since unity is perceivable in such objects, and as the senses of form, size, and colour have no power at all to form any idea of the proper function of each other, it is certain that they are each of them, incapable of perceiving the unity of any object composed of a variety of qualities. There must, however, be a faculty, specially adapted to this purpose; and well tried experience has established the fact that the provident and Omniscient Creator of all things has wisely ordained that its organ should hold a central position, where the produce of the action of its indispensable auxiliaries should converge and assume the character of Unity. It is through it we acquire the idea of matter independent of the qualities which characterize matter.

Those who manifest a strong desire to know the subject of their study in its minute details, and whose talent enables them to illustrate their argument with appropriate particular instances, are always found to be exceedingly full in the centre of the forehead, just above the nose, and stretching upwards to the extent of about an inch and a half. But, as has been already stated, its general fullness is not always uniform.

In all the most eminent practical engineers, the lower part is very large. And in proportion to its development will be manifested the capacity for readily detecting the minutest material obstacles to the proper working of their mechanical inventions. In such men, the upper organ also is often large. It is so in the mask from nature of the elder Brunell. In Chantrey's fine bust of Watt, there is a large development of it: and it is also full in the cast from nature of George Stevenson. Still, the lower part predominates, especially in the two latter. And in Chantrey's very expressive bust of John Rennie, the lower part is particularly salient, much more so than the upper.

It being the special function of this organ to gain a thorough knowledge of the particular constituents of the subject which engages one's attention, it is found to be very protuberant in men who have greatly distinguished themselves in the natural sciences. In the mask from nature of the great anatomist, John Hunter, the organ of Individuality is very prominent. In that of Sir James Smith, the celebrated botanist, it is very large. In the portraits and busts of Buffon, Cuvier, Linnæus, and in many other great naturalists, whom it would be tedious to enumerate, it is also strikingly characteristic.

But, though the proximity of this organ to those of form, size, weight, colour, and locality, causes its attention to be given, when these are large, more exclusively to these sciences and to the fine arts; yet, its use is by no means confined to such subjects. It is to a superior development of this organ that the poet owes the materials which render him renowned for the truth-like brilliancy and fertility of his descriptions, both of men and things; and of places, when it is connected with large organs of Locality.

Without this, fancy and imagination would be vague and wanting in copiousness. This part of the forehead is accordingly found to be very large in the casts from nature of Sir Walter Scott, Thomas Moore, and George Crabbe.

It was to the relative superiority of this part of the forehead that Canning owed the materials which gave point and brilliancy to his fancy and imagination, while the want of characteristic predominance in the same part in the cast of Lord Chancellor Eldon, though it is well-developed, accounts for the inability of that profound lawyer to cope with the renowned orator and statesman in the mental attributes which render imagination and fancy quick, copious, and versatile. This organ, when it is very large and supported by a powerful organ of Comparison, induces a tendency to personify everything, even abstract ideas, the affections and passions. Bunyan's "Pilgrim's Progress" is a famous example of this turn of mind. And in Sharp's fine engraving of his portrait, the authenticity of which is, I believe, beyond question, the organ of Individuality is very large. In the small profile of Ariosto by Ænea Vico, from the medallion by Doni, Individuality is strongly developed, and in Spencer, according to a print published by the Society for the Diffusion of Useful Knowledge, and in Virtue's print of him, the organ was remarkably prominent. And can there be anywhere found more exquisite examples of the mental tendency, engendered by this faculty, minutely to describe the physical attributes of objects than in the beautiful writings of this great poet. It was owing to the superior development of this part of the forehead, combined with a salient organ of Comparison, that the poet Moore was capable of charming everyone of taste

and feeling with metaphors and similes drawn copiously from physical objects (see Plate 12, diagram 1).

It was a similar prominence of the same region of the head that enabled Scott to delineate with such glowing truthfulness the charming scenery of his native land in the "Lady of the Lake," as well as the tumultuous incidents of the battle of Flodden Field in "Marmion," in which everything that could make a battle intensely real is described in the most vivid and vigorous style. The influence of Eventuality, also, is strikingly manifested in these instances (see Plate 1).

The tendency to indulge in minuteness of description, which is so striking a characteristic of the genius of Crabbe, took its rise in the ample development of the same part of the forehead (see Plate 2).

But in the fine contemplative forehead of Wordsworth there is not the same relative prominence of the organ of Individuality. Yet, though this organ was not strong enough to cause that great poet to indulge in giving eloquent and poetical expression to minute details of things that were in their nature unpoetical, like Crabbe, he still had the power of using that faculty with minute effect when his purpose required it.

The masks from nature of Wordsworth and Crabbe are marked examples of the exact coincidence of the relative size of the organ of Individuality in the foreheads of these great poets with those striking characteristics of their genius. Much of this diversity of taste, however, as has been shewn already, is due to Wordsworth's superior sense of poetic beauty, which is the natural result of his paramount organ of Ideality.

In the mask of Dean Swift, taken after death, the organs of Individuality and Eventuality are both very

large, and every page of his writing is replete with evidence of the great capacity he had for perceiving objects and events, as well as for remembering, imagining, and describing them in the minutest detail. One anecdote related of him proves the intense activity of those organs in Swift. He happened to dine at a friend's house, in company with a number of distinguished persons, and his host, observing that he looked displeased, asked if he was in want of anything. "Oh, no," said he, "I was thinking how that servant of yours, who has just left the room, has made no less than fifteen mistakes within the last few minutes."

Things, as they are, and as they happen, are perceived by a person thus organised, as it were, without his taking any pains in looking after them, while such minute occurrences would pass altogether unheeded by an individual in whom these organs are not characteristic, unless it were a matter of necessity to direct attention to such individualities, whether they relate to objects or events.

In order to place the fact just narrated in a still stronger light it may be well to mention an incident which was told me by a gentleman of considerable literary and poetical talents. "One day," said he, "I met William Godwin in a large company. He was standing with his back to the fire, apparently in deep thought, when a young gentleman, who stood near him, in a thoughtless mood, began to whistle in an under tone. Some time had elapsed before Godwin noticed this. But then, suddenly looking up in his young neighbour's face, he said, in a tone of voice peculiarly sarcastic, "Oh, it is you—is it?" He was evidently disturbed, but yet his attention was not immediately caught by the incident which caused his annoyance.

What a contrast this anecdote exhibits to that which has just been related of Swift! And what a marked difference there is in the configuration of the foreheads of these two remarkable men. Swift's is indicative of a mind intensely desirous of investigating the minutest particulars of what was happening, without any wish to trouble himself in searching after generalities; Godwin's, of one who loved to speculate upon fewer data and was prone to indulge in contemplations respecting the abstract causes of mental phenomena, owing to the superior size of his organ of Causality. Swift's forehead has much of the character of Crabbe's, with rather more Eventuality. Godwin's bears a characteristic likeness to that of Wordsworth. And perhaps Shelley was not far astray when he said, in his criticism on Mandeville, that Godwin was to prose what Wordsworth was to poetry. Abating something of course for the radical disparity of their dispositions for the sentiment of veneration, which was so strikingly characteristic of Wordsworth's mind, was but a weak ingredient in the mental constitution of Godwin (see Plate 1). And it may be noted here that the cerebral development of these great writers substantiates in a remarkable measure the truthfulness of Phrenology.

This organ is very large in the masks of Curran, Horne, Tooke, and Cobbett, and small, especially in relation to the fine development of the upper portion of the forehead, in the busts and portraits of Sir Francis Burdett, and certainly that distinguished baronet fell far short both of his political tutor and his wonderful self-taught protégé in the faculty of displaying the functions which are proved to belong to the organs of Individuality and Eventuality. No two foreheads could be more unlike

in respect to this organ and its neighbour and associate Eventuality, than those of Burdett and Canning, and the superiority of the latter, as a political administrator, capable of grasping a vast amount of complicated eventful details, was abundantly manifested during their political career. In the fine and harmoniously developed forehead of that astute and successful politician, Talleyrand, whose talent for minutely observing passing events and for rendering them subservient to his purpose was conspicuous, these organs form prominent features, while they are rather of subordinate magnitude in the expanded forehead of his celebrated countryman and cotemporary, Benjamin Constant, which is remarkable, according to his cast from nature, for the great size of the organs of the reflective faculties—Comparison and Causality. Constant, therefore, would naturally be more philosophically speculative, but less practical and versatile as a statesman than Talleyrand. The truthfulness of this phrenological deduction regarding the special character of Constant's intellect is corroborated by the opinion entertained of him by Napoleon the First. "Benjamin," said the emperor, in St. Helena, "is reasonable in the manner of geometricians, by theorems and corollaries, and a great pamphlet writer."

In great orators, who are likewise the most ready and effective debaters, the organs of Individuality and Eventuality are strikingly prominent. In Charles James Fox, who was almost unrivalled as a ready and eloquent debater, these organs are very large, and even salient, notwithstanding the fine general development of his forehead. They are not quite so characteristically prominent in the still finer forehead of Edmund Burke, who could not vie with Fox as an effective and persuasive

debater, although the superiority of his genius as an orator and statesman can scarcely be denied.

In the Earl of Derby the development of this part of the forehead is remarkably prominent. And has he not been called "the Rupert of debate," owing to the point, brilliancy, and effectiveness of his oratorical powers? The same part is remarkably large even amidst the well-balanced organs of Mr. Gladstone's wide forehead, and is not that distinguished orator and successful administrator pre-eminently gifted with the faculty of bringing forward in the minutest detail, out of the well-filled storehouse of his memory such facts as tend to illustrate and to strengthen his opinions? In the portraits of Grattan and Brougham the organ of Individuality is of paramount development. And what a difference in this respect in the casts from nature of Brougham and Godwin present, and how opposite was the tenour of their intellectual career. For while the great intellect of the latter displayed no aptness for pursuing the study of the physical sciences, such pursuits were peculiarly adapted to the versatile talents of Henry Brougham.

The separate existence of this faculty, called by Gall the Sense of Things and by Spurzheim, Individuality, is a fact sustained by evidence the most conclusive and unequivocal, and that the exact position of its organ in the brain has been truly pointed out and defined cannot be doubted by any earnest inquirer. Neither can it be maintained as a fact that the frontal sinus presents an obstacle fatal to the forming of a sufficiently accurate estimate of the size of the organ, even beyond the time of middle life, as has been already shewn. And the non-existence of the sinus in early life is a fact that has long ago been

fixed beyond the sphere of doubt by testimony the most trustworthy and clearly demonstrative.

In conclusion, it should be borne in mind that men who give their attention with alacrity to the dry details of things, have always a conspicuous development of the forehead directly and immediately above the root of the nose. And it is equally certain that men of superior talents, who do not trouble themselves about mere statistical details, and who have not the disposition to master them, are endowed with a comparatively scanty development of the same part. Of the former, the cast of the indefatigable Joseph Hume is a striking example, and the bust of his more brilliant cotemporary political reformer, Sir Francis Burdett, affords a remarkable instance of the latter. It is found to be a prominent feature in eminent actuaries. It is very large in the cast of Mr. Finlayson. And in an esteemed and highly respected friend of my own, a most successful actuary, it is very large (see Plate 7).

FORM.

CONTIGUOUS to the convolution of the brain which is called the organ of the Sense of Things, or Individuality, there lies another convolution, which has for its function the perception and appreciation of the forms of things. Like the former, this proceeds forward over the inner portion of the thin plate of bone, which forms the roof of the orbit of the eye, till it comes to within about half an inch of the brow, where it is crossed by the convolution which is the organ of Size. In consequence of this arrangement of parts the external sign of the organ of Form shews itself just over the inner angle of the eyelids, and is more easily seen in those whose eyes are not prominent than in those whom Homer would call ox-eyed. In Canova, for instance, whose eyes were rather sunken, than in Voltaire, whose eyes were remarkably protuberant.

Since the superior interior part of the long plate of the orbit grows over this convolution it follows that the orbit must be convex or depressed at that part, according to the greater or less development of the convolution. When it is large, therefore, the eyeball, having less room in that part of its socket, is pressed as it were, downwards and outwards. Its actual amount of development is, therefore, to be estimated by the degree of width existing between the eyes. But, it should be borne in mind that it would not always be right to predicate the presence of a large

organ of Form, when there is a great distance between the eyes; for the æthmoid bone, behind the root of the nose, is sometimes very broad, and the eyes are consequently separated widely; but, yet in such a case, the organ of Form, lying on each side of the cribriform plate of that bone, through which the sub-divided fibrils of the olfactory nerve pass down into the nose, may not be very large.

The measure of this organ has sometimes been estimated by the thickness of the root of the nose. But acute practical enquirers will soon learn to see that this is not a true criterion. For example, the root of the nose, in the mask of Canova is thin, and yet the organ of Form is very large, while the organ is very moderately developed in the cast of Dr. Gall, although the root of the nose is thicker. In the bust of Sterne, by Nollekens, and those of Byron, by Thorwaldsen and Bartolini, the root of the nose is thin. But the organ of Form is large in Sterne and small in Byron. I have occasionally seen clever phrenologists fail to point out the seat of this organ in the skull, from thus relying on the thickness at the root of the nose as a criterion.

That Form is a quality of bodies quite distinct from their size, weight, or colour, cannot admit of a doubt. And that it is a faculty which bears no settled proportion to the other mental faculties is a fact beyond all question. It is certain that both Barry, West, Flaxman, and Canova possessed good general abilities, but it would be hazardous to say that either of them could ever cope with William Cobbett as a powerful and versatile writer and thinker on political affairs. And yet Cobbett seemed to be incapable of forming any estimate of the beautiful forms of the Elgin marbles, which are so true to nature,

and so charming in the eyes of those who are endowed with a large organ of Form. To be sure, a great genius like Byron, so highly endowed with the sense of the beautiful, in whatever shape it appears, could describe the dying Gladiator in a strain of exalted poetry, both touching and natural. But it is not the exquisite form of this figure which arrested the poet's attention. There is not even a single allusion to the beauty of its form. It is the sentiments and ideas, which its attitudes suggest, that are so vividly and pathetically expressed, the mere recital of which fills the heart with its warmest and fondest recollections.

When this organ is well developed it is attended with the love of painting and of sculpture, and it is this faculty that prompts young persons to devote their lives, often under sore privations and embarrassments, to the practice of those delightful arts.

The sense of configuration is more requisite for the portrait painter, sculptor, and architect, than to the landscape painter, to whom a keen sense of locality is more necessary. To the historical painter it is quite indispensable. And I have invariably found that those artists, who have distinguished themselves as landscape painters, are always large where the organ of Locality lies, though that of Form may be moderate, while form is invariably large in those who have succeeded best in historical and portrait painting, whether locality be prominent or not. The faculty of Imitation seems to be more necessary as an effective auxiliary to that of Form than that of Locality. And, supposing the organs of Locality and Form to be equally well developed in the same individual, a large organ of Imitation would lead him to the painting of portraits rather than landscape,

and to historical painting in preference to either, if the organs of Individuality, Eventuality, and Time be prominent. The organ of the sense of the beautiful—Ideality—is an incentive to landscape painting, from its tendency to withdraw the thoughts from active worldly pursuits, especially if form be not a salient feature. And if the sense of the ludicrous be predominant the man with artistic talents will devote himself to humorous subjects and shine in caricature.

The channel through which the artistic faculty of Form takes its course, then, depends upon the predominance of certain other faculties which are acting in unison with it. It should be understood that a person endowed with a fine development of the organ of Form may be totally incapable of drawing well, owing to the want of manual dexterity, a faculty which is the result of a good development of the organ of Constructiveness, acting in combination with those of Form, Size, and Imitation. Still, wherever a large organ of Form is seen, there can be no hesitation in predicating the existence of the capacity of perceiving, remembering, and instinctively appreciating forms and their harmonious combinations. Nor can there be a doubt that persons, who collect prints and pictures, especially such as comprise fine and expressive human forms, will always be found to have this organ large. Very young persons in whom it is well developed, feel a charm in looking at pictures, which does not arise merely from juvenile curiosity. Chantrey and Canova, when mere children, and without any previous training, surprised their friends by their successful attempts at modelling figures, and Sir Thomas Laurence, evinced great talent for drawing in the days of his early childhood. In the casts from nature of all of these the organ

of Form is strikingly marked. But in the portraits and busts of Michael Angelo the organ is much larger than it is in either of them. So large, indeed, was the organ in that wonderful genius, that he remarked, himself, that a sculptor, to whom he sat for his bust, must have mistaken the true position of his eyes, for he had placed them so widely apart that the form could not possibly resemble nature. The sculptor might have exceeded the proper bounds, but there can scarcely be any doubt that the man followed nature closely, and that Michael Angelo's face was characterised by an extraordinary width between the eyes. In Longhi's beautiful engraving of him, after a picture by the great original himself, the organ of Form is exceedingly large. In several beautiful engravings of Raphael, after authentic paintings by himself, the development of the same organ is equally conspicuous. And, certainly, no one ever excelled this almost divine artist in the power of appreciating and producing forms the most exquisite and natural. In Albert Durer, Titian, Rubens, and all those geniuses, who have excelled in the delineation of the human form, this organ is remarkably large.

On the other hand it is a fact, which has been over and over again tested, and consequently confirmed as one of nature's truths, that a scanty development of this part of the brain is always associated with an insurmountable inaptitude to appreciate harmonious combinations of form. Even the versatile genius of Cobbett was incapable of seeing and appreciating any beauty, or charm of any kind, in such things. And lest the unpoetic mould in which his mind was cast should be supposed to afford a plausible reason for this mental deficiency, it is only necessary to advert once more to the case of Byron, whose power of appre-

ciating form, for its own sake—a sense in which it was the delight and glory of Michael Angelo and Raphael to cultivate it—was very limited: although his excessively elevated and enthusiastic sense of poetic beauty caused him to be a powerful exponent of the sentiments which some attitudes are intended and calculated to convey. But still some passages in his poems would lead one to suppose that he possessed a very scanty endowment of the organ of Form; and, as I have already stated, his portraits and busts confirm that supposition. An extract from “Childe Harold” will illustrate his want of care for the beauty of form, abstracted from all other considerations:—

“There be more things to greet the heart and eyes
In Arno’s dome of arts, most princely shrine,
Where sculpture with her rainbow sister vies;
There be more marvels yet—but not for mine;
For I have been accustomed to entwine
My thoughts with nature rather in the fields
Than art in galleries; though a work divine
Calls for my spirit’s homage, yet it yields
Less than it feels, because the weapon which it wields

“Is of another temper, and I roam
By Thrasamene’s lake, in the defiles
Fatal to Roman rashness, more at home.”

And in “Don Juan,” he says,

“I’ve seen much finer women ripe and real
Than all the nonsense of their stone ideal.”

This may be quite true; but the term nonsense, used to designate the divine art, even in sport, indicates the absence of a fine perception of beauty in simple form, when all other attributes are abstracted from it.

How opposite is the case as to his friend Samuel Rogers, who was a refined lover and judge of the beauties of

sculpture and of painting; and how superior was the development of form in his bust.

In the head of Dr. Gall the organ of Form was small : and it is a fact that he could not recognise a person whom he had sat next to at dinner, were he to meet him on the following day.

The existence and seat of the organ of Form is established beyond doubt.

S I Z E .

NEXT to the convolution which is the organ of Form, lies that which perceives Size and Dimension. But, unlike the former, this shews itself on the eyebrow, contiguous to Individuality. When it is large, a marked prominence is perceptible on each side of the root of the nose. And it is an obvious fact that the development of this small portion of the brain is great in some heads and small in others, and that its relative proportion to the parts around it varies in almost every individual. To feel perfectly assured of this fact it is only necessary to compare the casts of Canova and Sir Thomas Laurence with those of William Godwin and George Crabbe; or that of John Clare, the peasant poet, with the cast of George Stevenson, the self-taught engineering genius. Or let a strict comparison be instituted between the fine heads of Lord Mansfield and Lord Grenville, as they are represented in the busts by Nollekens, and those of John Rennie and James Watt, by Chantrey, and the great disparity in the saliency of this particular part will be instantly seen. To the great engineers the talent for judging of size, dimension, and the proportion and fitness of parts in the construction of machinery was of course indispensable; while such a faculty could be but of little moment to the two great statesmen, to whom the Creator awarded that which their calling demanded, namely a

powerful organ of Language, which was denied to the other two. Those who evince marked ability in appreciating and calculating the distance of objects from one another, as well as their relative size, are remarkable for a large development of this part of the eyebrow. It is particularly conspicuous in the masks from nature of Sir Isaac Newton and Sir William Herschell. I have already named some eminent geniuses in whom this organ was small, who were not instinctively led to pursuits which demand the presence of such a faculty. In the collection of the late Mr. Deville there was the cast of a gentleman who found a difficulty in perceiving the vast height of St. Paul's dome, as compared to the houses lying around it, and it was a gratifying fact in affirmation of the truth to find a marked depression of the brow at the seat of the organ of Size. One can scarcely imagine how it is possible such a deficiency of perceptive power could exist. But, if it is proved beyond doubt that some persons are incapable of distinguishing the colours of objects, there is nothing unreasonable in supposing that an individual might be found who is incapable of appreciating the relative heights and distances of things, which differ considerably in size. How striking the contrast between this mask and that of Sir Mark Isambart Brunel.

In all men, who display great talent for drawing the human figure correctly, this part of the eyebrow is remarkably full. Such is the case, without exception, in all great draughtsmen. It is sometimes supposed that the faculty of Form combined with manual dexterity is sufficient for the mere mechanical department of art, but form may be correctly represented, although parts may be wanting in their due proportion as to size. The faculties of Form and Size, indeed, are perfectly distinct

from one another, though their mutual co-operation is indispensable to the attainment of practical skill in drawing or modelling. A pistol bullet and a cannon ball may be both spherical. The faculty of Form, of itself perceives their roundness ; but cannot appreciate their comparative dimension. Another, and a perfectly distinct faculty is, therefore, necessary to give the power of perceiving the relative size of objects. And experience affords evidence that the organ of this faculty is located as I have already pointed out. The organ is quite established.

WEIGHT—SENSE OF RESISTANCE.

THE degree of ability to appreciate the relative weight of bodies is in proportion to the strength of the sense of resistance with which an individual is endowed. And as this internal sense is entirely different in its quality from the senses of form, size, and colour, it necessarily follows that there must be an organ of the brain which is exclusively devoted to its manifestation.

Spurzheim, having convinced himself by reasoning that this faculty had a separate, independent existence, sought for its organ, and he rationally conjectured that it would be found in the vicinity of those of form and size. Subsequent investigation, which has been kept up with scrupulous attention to facts, has fully confirmed the opinion of that acute philosopher.

Everyone must have observed that some persons can, even without much practice, throw a weight from the hand with much greater accuracy of aim than others, who may be more accustomed to such bodily feats. The cause of this superiority will be found in the superior development of the organs of Locality, Size, and Weight. Long experience has thoroughly convinced me of the truth of this unvarying coincidence. I have also observed that persons, possessed of great bodily agility, can point out with great accuracy the spot they mean to spring to, when these organs are large, and that others who are

incapable of doing the same, whatever their amount of agility may be, are possessed of a comparatively scanty development of these parts of the forehead. There can be no difficulty in seeing how this is. A powerful organ of Size enables its possessor to judge accurately of the distance he has to traverse, and a large organ of the Sense of Resistance imparts the faculty of estimating the force or impulse necessary for the projection of a body of a certain weight to a given distance.

Without these powers the simple mechanical instinct of Archimedes never could have enabled him to destroy the Roman galleys in the Bay of Syracuse with his projectiles, and it was his self-taught skill and experimental knowledge in the act of applying to moveable bodies the degree of force sufficient to overcome their ponderous resistance, that led him to feel assured that he could move this globe of earth if he could only obtain a proper fulcrum. The development of this organ, as well as of those which act in concert with it, is exceedingly great in the antique bust of that wonderful mechanician. The same part is very prominent in the most authentic busts of Julius Cæsar, and his bridge across the Rhine gave ample evidence of the superior power of the same corresponding faculties in that great man. In the authentic bust of Marcus Vipsanius Agrippa the same sort of development is conspicuous, while in the busts of Cicero, Horace, Lucian, and Theocritus it is not at all salient. In a cotemporary profile of Michael Angelo, engraved by the celebrated Bonasone, this part of the forehead is very large, and the power he possessed of adapting the force or weight of his stroke to the quantity of marble which he wished to displace, was, it is told, of the highest order. The heads of all great practical engineers are

characterised by a predominant development of the same organs. In Smeaton, Rennie, and the elder Brunel, in Watt, Stevenson, Trevethick, Roberts, and many others, with the forms of whose heads I am well acquainted, through authentic casts and busts, this part of the head is remarkably large. Watchmakers, renowned for their practical genius in devising machinery for marking the progress of time, were, according to the best engraved portraits that remain of them, endowed with a very marked fullness of this part of the head. In such artificers as these the keenest perception of weight and of the fitness of parts in regard to their relative size must be indispensable. The existence and seat of this organ is still further illustrated in the portraits of the most renowned "line engravers," for the force necessary for making a fine sweeping line, which is in itself, without the aid of cross lines, capable of conveying to the mind of the spectator a true idea of natural light and shade, depends upon a keen perception of the exact amount of resistance to be overcome by the graver. And it will invariably be found that in proportion to the strength of this talent the organ of Weight will be more or less developed. This faculty is admirably displayed in some of the early engravings of the great French artist, Nanteuil. William Sharp possessed the same talent in an eminent degree, and few have equalled Houbraken in the fineness and exquisite finish of his line engraving. In the great English engraver of sea pieces, Woollett, the organs of Weight and Size are very characteristic. And the portrait of this engraver who never, so far as I know, attempted to engrave a portrait or historical picture, affords a striking illustration of the distinction between the faculties of Form and Size which Phrenology so clearly demonstrates. In him

the organ of Form was very moderately developed, while that of Size was a prominent feature. Through the strength of the latter he was enabled to form an accurate conception of perspective, but from the comparative smallness of the organ of Form, supposing the portrait at the South Kensington Museum to be correct, I should infer that, as an original draughtsman, Woollett possessed but little genius, especially where the human form required to be depicted, while Locality and Size gave him power to appreciate with superior accuracy the relative proportion and distance, as well as the position of objects which constitute landscape, and his Imitation and Constructiveness, with a superior organ of Weight, caused him to be unrivalled in imparting the qualities not only of transparency, but almost of liquidity and motion to his exquisite engravings of sea pieces. This organ is fully established.

COLOUR.

To Dr. Gall is due the discovery of this organ. But before he thought of meeting with an organ of Colour, he was struck with the fact, that some persons were incapable of distinguishing one colour from another. And he says he was "especially struck by a bookseller at Augsburg, blind from birth, who maintained that it is not the eye, but the intellect, which recognises, judges, and creates the proportion of colour." "This man," says Gall, "even assures us, that, by means of an internal sense, he has precise notions of colours, and it is a fact that he determines their harmony with exactness. He has a great number of beads of coloured glass; he forms with them different figures, and the arrangement of the colours is always harmonious. He tells among other facts, that, whenever he takes pains to arrange the colours of a ground, he feels pain immediately above the eyes, especially above the right eye. And," he continues, "the region which I have above indicated is considerably developed in this man."

There is one point in this case which is important and interesting in a psychological and phrenological light, and that is the pain which this blind man felt after having given strenuous attention to the harmonious arrangement of his coloured beads.

It is scarcely necessary to remind anyone of the fact,

that, in the active operations of the brain, that part of it which is subjected to the greatest amount of intense exertion, is the part, which, according to the laws of nature, first affords evidence of its having been exclusively over-exercised. In treating of the different affections, I have mentioned some cases illustrative of this fact, and here again there appeared in a man, blind from birth, who took delight in the harmonious arrangement of colours, a susceptibility of being affected by pain in the centre of the eyebrow, whenever his attention was devoted, with great intensity, to the production of such harmonious arrangement. It also appears that the centre of the brow was considerably developed in this man. And Gall, having found that the same part of the brow was similarly formed and prominent in the heads of great painters, and seeing that the more these excelled as colourists, the greater was the fulness of the centre of the brow, he named that part the organ of the Sense of the Relation of Colours.

That such an internal sense exists, independent of the aid of the external sense of sight, no doubt can be entertained, if this case be admitted as a fact, and those whom experience has afforded the true means of judging, cannot, in reason, doubt for a moment, the conscientious accuracy of Gall, who was a most acute and penetrating investigator of facts, as well as a profound and comprehensive thinker. And the fact of a blind man feeling pain in the seat of that organ, which is so strikingly characteristic of a successful colourist among painters, is strong circumstantial evidence to shew that there exists a special organ of colour, and that its seat is in the centre of the eyebrow, where the pain was felt.

It is to be regretted that Gall did not say whether the

man was capable of selecting beads of different colours, as he required them, for the different combinations he was desirous of producing, or whether he wanted the assistance of some one, who could see, to hand him colours, which he knew, by an instinctive internal sense, would blend harmoniously. Probably, as compositors have each letter in a box for itself, so may this blind man have had his different coloured beads, each in its own compartment. It is hard to believe that the external sense of Touch could, in any case, be used as a substitute for the sense of seeing, where the perception of colour is concerned.

A case was brought before the Phrenological Society of London, when Dr. Elliotson was president, by the late Dr. Moore, which imparts much force to this doubt of mine. It was this: A decent poor man of the name of Davis, from the west of England, was introduced at the Society's rooms in Panton Square, by Doctor Moore, as an extraordinary example of a blind man, who was continually travelling for the mere delight of moving about from place to place; as well as to shew how exactly this propensity to travel corresponded with the immense development of the organ of Locality by which this man's forehead was conspicuously characterized, notwithstanding the good development of the organs surrounding it, with the single exception of the organ of Colour, which was much inferior to the rest. This man lost his sight in the fifth or sixth year of his age. In order to test the possibility of selecting colours by the touch, he was asked whether he thought colours could be distinguished by that sense. He replied that he did not think it possible. It certainly was an impossibility to himself. Now, this inability did not proceed from want of a nice sense of touch: for, so sensitive was this man as to touch, that he walked through the streets of

London without a guide, or even a stick, and yet avoided knocking himself against a post or a corner. He accounted for this by saying he felt a peculiar impression, which warned him that something was in his way. He was asked how, after being once directed to Dr. Moore's house, in Lincoln's Inn Fields, he could go in a direct course to the gate, and turn into the space in front of the house, without making enquiry, and how he distinguished that gate from any other. He said that, within a certain distance of Dr. Moore's house, a peculiar sensation warned him that he was walking by something higher than himself, and that this feeling vanished when he approached Dr. Moore's house; and he then felt assured that he was on the right track.

Here, evidently, there existed a fine sense of what may be called touch without contact; and, if touch could enable anyone to discriminate colours, one might expect the presence of such a faculty in this instance. I am, therefore, inclined to suspect that no such power exists in the sense of touch. It is to be regretted that Gall was not more explicit as to the manner in which the blind bookseller of Augsburg made choice of his coloured beads. But, apart from this question, the case adduced by Gall establishes the important fact that to appreciate colours, and to feel delighted in contemplating the harmonious arrangement of them, it is not absolutely necessary to possess the external sense of sight. And the pain which was felt by the blind man of Augsburg, in the seat of what is proved to be the organ of the Sense of Colour, by a vast amount of both negative and affirmative evidence, is confirmatory of the existence of both the internal sense and the exact situation of its organ.

It is, also, an interesting fact that the blind man, Davis,

who might, from having had the power of seeing in his early childhood, be supposed to retain a distinct recollection of colours, seemed incapable of recalling vivid impressions of them. He thought he could remember the colour of the grass, and some other hues. But he owned that his idea of colour was very indistinct. Now, this partial incapacity to remember colours was in accordance with his poor development of the convolution of the brain which occupies the centre of the eyebrow, and is about half an inch broad. This is the organ of the Sense of the Relation of Colours. In Davis, when viewed in connexion with the parts around it, this organ was depressed. Hence arose his inability to revive his dormant sense of colour.

That a marked depression of the centre of the eyebrows is always a striking characteristic of the cerebral development of any one who wants the power to distinguish colours, there is abundant evidence to shew.

Dr. Spurzheim saw a person in Dublin, who was fond of drawing, but he could not distinguish colours, and painted a tree red instead of green. He also mentions the case of Mr. Ottley, of Dublin, who could only distinguish the shades of green and red. If dark green and light red were placed before him he could distinguish the one from the other as differing in shade, but if dark green and dark red were placed together, he could not perceive any difference between them, he would say that the colour was the same. "He would say," says Spurzheim, "I receive one impression from the dark red and the dark green, and another impression from the light red and the light green, but the species of impression is the same.

I met with a case that exactly resembled this. A young gentleman was incapable of distinguishing red

from green or blue. And although these colours were repeatedly placed before him and named, he would, if asked a few minutes after to point out the red, be sure to select the green or blue. Sometimes by chance he would point out one or the other, but next moment he would be again at fault. He could, however, distinguish the difference in shade. He would say that one was darker than the other. And when the same cloth was shewn to him frequently, he would sometimes name the colour correctly, but that was owing to his remembrance of the names we gave to the dark colour and light one, as he himself acknowledged. Apparently all he could discern was the comparative depth of shade in colours. In the centre of the eyebrow of this youth there was a depression about half an inch in breadth, and a like deficiency was equally manifest in the mask of Mr. Ottley, which I have seen in Deville's collection. In that museum there was, also, a cast of Mr. Milne a brassfounder of Glasgow, in which the organ of colour was remarkably depressed. This man, who could not distinguish colours, called one day for his coat at an inn, but being unable to describe the true colour of it, the waiter appeared to suspect him, which excited him to the highest pitch of honest indignation. He was, I believe, at that time unconscious of his inability to perceive or distinguish colours. There was the cast of another man in that collection who could only distinguish black and white. He did not seem to be affected by any colour. The middle of the eyebrow was very much depressed in this cast.

Many years ago I was requested by a most respected and able Wesleyan Minister to give him a phrenological estimate of his talents and disposition. During the

examination of his head I was struck with the smallness of the organ of Colour on the left eyebrow as compared with that on the right. I then said it was probable he could distinguish colours accurately enough; but that it would be interesting to know whether he could not distinguish colours better through the left eye than the right. He then placed his hand upon his right eye and instantly described with accuracy the various colours of the carpet. He then closed his left eye, and the carpet appeared to be a muddy brown, without any variety of colour. He said that this recalled to his mind a circumstance which occurred to him many years before, and which he could never account for; but that Phrenology solved the mystery. One evening when he was kneeling at prayer before an old-fashioned high-backed chair, divided in the centre of the back by an upright bar, he saw on the left side the carpet as it had always appeared to him, while on the right side of the rail it seemed to be entirely divested of colours and assumed a uniform muddy or dirty appearance.

To account for this curious phenomenon one can suppose that, when the mind is intently directed to one absorbing subject, the eyes may, each of them, gaze outwardly, so that for a moment, one of them may see an object which the other does not. Indeed, it is certain that when some persons are absorbed in thought their eyes, though naturally free from obliquity, will occasionally diverge from their usual directness; and thus will their action become distinct and independent.

To an anatomist my reason for choosing one eye rather than the other, in the case just cited, will be obvious enough, when the crossing of the fibres of the optic nerves at their junction is taken into consideration.

In this case it is certain that the right eye was as capable of discerning objects and, with the single exception of colour, their qualities, as the left. It cannot, therefore, be said that the defect lay in the eye itself. It must then, be the organ of Colour in the brain that failed in the performance of its function. But its incapacity existed only in the organ or convolution that was seated in the left hemisphere. Can there, then, be a more decided and direct proof, than this case affords, of the fact, that a well developed sound organ, on one side of the brain, can perform its function with sufficient accuracy, although its counterpart, on the other side, may be incapable of performing its function at all through insufficient development.

This case strikes home at the very root of those reiterated objections which have been put forward by those enquirers who are more prone to indulge in uncertain conjecture than in scrutinising efforts to discover nature's facts, as well as to unravel the knotty points of mental philosophy by a careful analysis of phenomena, which alone can throw light upon the subject. It will be seen, of course, that I allude to the objectors who have said that Phrenology cannot be true, because mental faculties continue to be manifested, when the brain has been injured either by accident or disease. For, it has been invariably the fact, that, on all such cited and assumed antagonistic cases, one side of the brain only was affected.

To any man who is not speculatively fastidious, and such is not the one who is inclined to traverse with a watchful eye the wide field which Gall has trodden, and from whence he collected the only durable materials by which a true system of mental philosophy could be con-

structed, to any man not thus constituted, such cases appear perfectly in accordance with reason.

With regard to the affirmative proofs of the existence of an organ of Colour they are to be seen in the portraits, busts, and casts of the most distinguished masters in the art of painting—men, who surpassed as colourists others to whom they were inferior as draughtsmen.

Few indeed, if any, could cope with Claude in the exquisite beauty and poetic grace of his colouring, and yet he has left no specimen of his superior talent as a delineator of form. In his portrait there is a great fulness in the centre of the eyebrow. A fine development of the same part is also conspicuous in the best portraits of Titian, Rubens, Vandyke, Rembrandt and others, who are remarkable for the exquisiteness of their colouring.

Like every other faculty this of Colour is possessed in a different measure by different artists. And the development of this part of the head has always been found to be duly proportioned to the extent of the faculty. The genius of James Barry did not enable him to imbue his extraordinary productions with combinations of colour, so exquisite and fascinating, as those that render the truly tender and natural, but less ambitious works of William Mulready, so charming. Neither can the works of West at all vie, successfully, with those of Etty, in the quality of his colouring. Now, it is certain that the organ of Colour is but moderately developed in the mask from nature of Barry, while it is very full in Mr. C. Moore's excellent bust of Mulready. And its development in the casts from nature of West is not at all so considerable as it appeared in Etty. In the cast after death of our great landscape painter, Turner, the organ is very salient, and it was well marked in the late Francis Danby, in whom it

was united with a dreamy but yet fervent sense of the beautiful in nature and in art—a power which heightens the effect of any faculty or organ. In the cast from nature of the celebrated Fuseli it is not so well developed as it is in the portraits of Reynolds and Gainsborough. And though he possessed genius, and a wild kind of originality, he had not the ability to equal in beauty the colouring which renders Gainsborough's landscapes so charming, and which is also so conspicuous in the "Boy in Blue," a work capable of vieing, dare it be said, with one by Titian himself; as well as in the exquisite and affecting picture of the poor child with the "Broken Pitcher," which could hold its place by the side of a Murillo; and, also, in that most finished portrait of Mrs. Siddons, now in the gallery at South Kensington. The great eminence of Sir Joshua as a colourist is so well known that it would be superfluous to say a word respecting it. To use the eloquent language of his great and beloved friend Edmund Burke, "His portraits remind the spectator of the invention of history, and the amenity of landscape."

There cannot be the slightest doubt of the separate existence of this faculty of colour; and, that the seat and external appearance of its organ in the brain is unerringly fixed, no conscientious and careful observer of facts, after the manner of Gall, can hesitate to declare his thorough conviction.

LOCALITY.

THE first intimation which Gall had of the probable existence of a special faculty for remembering the relations of places in space arose, as has been elsewhere stated, from the fact that in his boyhood he never could retrace his steps to places in woods where he had found out birds' nests, although he took care to fix landmarks in the ground for his guidance, while a schoolfellow of his, a boy of very moderate talents, could find his way back without any difficulty, and could not understand why Gall was utterly incapable of doing the same. Neither did Gall understand the cause. But his surprising and precocious sagacity instantly suggested that the cause of so strange a phenomena would be found to lie in the shape of the head, as he had already found the capacity for getting off words by heart to be accompanied by a prominence of the eyes.

With a view of testing this conjecture he took a cast of this boy's head, and subsequently moulded the heads of others whose recollection of places was a marked feature of their intellects.

These casts he found to be very different in their general form, but after comparing them many times he was at length struck with what was a point equally conspicuous in all of them. This consisted of a prominence above

the root of the nose on each side of Individuality, and running obliquely upwards and outwards.

In his great work, Gall affords abundant evidence to shew that the same part of the head forms a marked feature in every one who has ever manifested a strong tendency to travel.

When this organ is predominant it induces restlessness, and renders it irksome to remain long in any one place. And it is to its dominant energy that the migratory tendency of some species of birds is entirely due.

This tendency certainly cannot arise, as some philosophers have supposed, from unpleasant changes in the weather, for the nightingale and cuckoo remain with us till their usual time for departure, no matter whether the summer be inclement and rainy, or genial and sunshiny. And do we not find our sparrows and other stationary birds bear the intense severity of some of our winters without attempting to migrate, although they die by hundreds from cold and hunger? Nor is the redbreast prompted to migrate before his time though he be driven to take shelter in our very dwellings to relieve himself of cold and hunger.

Again, it has been said that the old birds call the young ones together and induce them to accompany them on their long journey, and that, therefore, it is to education the migratory tendency of birds is to be attributed. But to what, it may be asked, are we to attribute the disposition of the first swallows to set out upon their long and perilous journey? A fact mentioned by Gall sets this point as to education in a clear light. "I exposed," says Gall, "some young cuckoos in my garden, that they might be fed by other birds. While the other cuckoos remained in the country the two young ones which I had

reared did not quit the garden, but disappeared at the period of the migration of their species, though they had no communication with any of the old ones.

One fact like this is worth more than a thousand conjectural arguments. And it is not to be overlooked as evidence of strong memory of place, that migratory birds not only return in due season to the same country, but also to the same part of the country, and even to the same nest.

Is it not a refined sense of the relative position of places that enables the carrier pigeons to convey messages to and from places, very remote from one another, without missing their way? Dr. Gall mentions a case where a male and female pigeon were carried a distance of eighty leagues into the Voralberg, and then set at liberty. They both returned home. The strong local memory of some dogs is proverbial, but their power of returning home from great distances has been attributed to the sense of smell. Many instances, however, plainly show that smell, though it may act as an effective auxiliary, cannot be the true and principal source of this power.

Among several cases mentioned by Gall, there is one of a dog that was sent from Lyons to Marseilles, where he was embarked for Naples, whence he returned by land to Lyons. "Again," he says, "A gamekeeper in my native country sold a hound to another hunter, who lived more than a hundred leagues off, in the very heart of Hungary. Some time after, they were informed by letter that the dog had escaped, and after some months he arrived at his old master's wasted with fatigue." A few years ago I was struck with the beauty of a pointer on board a ship lying in the East India Docks, and bound for New Zealand. The dog belonged to a lady from

the neighbourhood of Dublin, who was going to join her brother in that distant land. Being attracted by the height of the dog's head, and its great width just above the eyes, I asked the lady—and I felt sure of getting an answer in the affirmative—if her dog was not a very sagacious one, one that could find out its way well. "Yes," said she, "and I will give you an instance of it. A short time previous to my setting out for my long journey, I sent this dog by railway to a friend living in a distant quarter in the south-west of Ireland, and then left home for Dublin. Not long after the dog appeared at the door of its accustomed house, which was now deserted, and some neighbour, with whom the poor thing used to be familiar, had it conveyed to me to Dublin. After that, I could not but bring the faithful creature to what I suppose is destined to be my final resting-place."

It is quite clear that the return of this dog to its old dwelling cannot be attributed to a superior sense of smell. To what then is it to be attributed? Surely, to a strong sense of the relative position of places. In this case it was not the memory of places that served the purpose of the animal; for he had not seen the space that intervened between him and his mistress's home. It can, therefore, only be attributed to that quality of the sense of locality, which, when it is very strong, urges its possessor to explore new places. And, possibly, the same faculty enabled this dog to see or to feel the direction which the train that carried him had taken.

It would be a mistake to suppose that all dogs are endowed with this instinct. A friend of my own had a beautiful dog of the Blenheim kind, that was remarkably sagacious and affectionate, but he frequently lost his way,

and rewards were several times paid for his restoration. This dog was so very deficient in local memory, that his owner was obliged to be constantly on the watch, lest he should stray away. Dr. Gall mentions cases of this nature.

Dogs differ much both in the actual and relative breadth of the scull, where it embraces the anterior lobe of the brain. And their sagacity and retrieving faculty are always in proportion to the greater or less development of that part of the head.

I have already, when treating of colour, mentioned the name of a man, blind from infancy, who was constantly travelling from place to place, and was capable of finding his way without a guide. The organ of Locality was immensely large in this man. But the most remarkable instance, perhaps, on record of an untiring propensity to travel was Lieutenant Holman, R.N., who, though quite blind, travelled all over Europe and a great part of Russia to gratify an inextinguishable love of visiting strange places. He even published a long account of his travels.

In the cast of this worthy and benevolent gentleman, taken by the late Mr. Deville, the organs of Locality are extremely large. The cast of the negro, Abou Becker, exhibits a very poor development of the same organs. This man, who was engaged by some of our African travellers, as a guide, was sent forward to procure information as to the best route for them to pursue. He never returned. And it was thought he had betrayed them. But I am inclined to think that the fact of his not returning was owing more to his incapacity to retrace his steps than to premeditated treachery. For, I believe he bore a good character previously. Neither is

his head at all indicative of badness of disposition, but quite the reverse. Possibly he may have been detained or killed by his more savage countrymen. Still, whatever the truth may be, respecting the cause of his not returning, it is a remarkable coincidence, that this hitherto trustworthy negro, who lost his way in his own country (for such was the general impression on the minds of those who had employed him), possessed but a very scanty proportion of the organ of the Sense of Locality. In the magnificiently developed forehead of Dr. Gall this organ is very moderate in size; and his capacity for remembering places, as we have already seen, was weak. He was ignorant of geography, says his biographer, and whenever he looked upon a map he found something new, though he had observed it a thousand times before. In the casts of Parry, Franklin, Ross, Lyon, Crozier and many others in Deville's collection the organ of Locality is protuberant. There is a palpable resemblance between all of them in respect to this particular organ, though there appears in the general form of the heads a very marked dissimilarity. No two heads, indeed, could be more unlike, than those of Sir J. Franklin and Sir John Ross. Of course, it will be understood that inferior heads are excluded from these comparisons. Neither do the heads of Parry and Lyon resemble each other in the least, nor do they bear any general likeness to those of Ross and Franklin. But I must once more attest that their otherwise dissimilarly shaped foreheads were all extremely salient at the seat of the organ of Locality.

It should be borne in mind that this organ will sometimes appear less protuberant in one head than in another, though it be of equal size in both. This will happen when the organs of Individuality, Eventuality, and Time are

very large in one and moderate in the other. The great prominence of this organ is remarkably conspicuous in the best authentic portrait of Captain Cook, notwithstanding the fine development of all the other organs of his lofty, expansive forehead. This organ is strongly marked in the bust of Rajah Sir James Brooke; and in the portraits of our most successful modern navigators, Sir James Ross, Maclure, and McClintock. It is large in the casts, taken by Deville, of Captain Dumont Durville and Lieutenant (now Admiral) Wilkes, the French and American navigators; and it was large in the head of Captain Weddell, who reached a degree of latitude in the South which no one before him had attained, and which Durville failed to arrive at.

This part of the forehead is always large in those artists who excel in landscape painting. In the portraits of many of the old masters who excelled in this line, I have found this organ prominent, and I have found it large in the mask of Turner. Indeed, it may, without any prospect or likelihood of committing a blunder, be assumed, for a certainty, that the organ of Locality will be found to be a prominent feature in the heads of such eminent men as Calcott, Stanfield, Creswell, Linnell, Danby, and others whom I could name, were it not that the enumeration would be tedious. But the cast from nature of the famous Vernet ought not to be omitted. In it the organ of Locality is strongly marked. Ministers of religion, who like to be sent on foreign missions, will be found to have a large development at the seat of this organ. This fact is abundantly manifested in the portraits of the intrepid African traveller, Dr. Livingstone.

A quick comprehension of the relative position of places is an essential ingredient in the intellectual composition of

an engineer. The successful choice of the best line for a railway will depend much upon the strength of the faculty of the sense of the relation of localities; and, as a sure concomitant of this talent, it is a fact, patent to anyone, who will direct even slight attention to the evidence, that the organ of Locality is large in all eminent engineers. In Watt, Rennie, Smeaton, the Stevensons, the Brunels, it is very large.

The active exercise of this faculty is a source of delight to the astronomer. To contemplate and comprehend the relative position of the planetary systems with success is the aim of all his fondest aspirations. Hence it would be natural to expect to find a large development of the organ of Locality in the foreheads of Newton and Herschell, of Descartes and Laplace, of Gallileo and Tycho Brahe. And such, truly, is the case. In the masks from nature of Newton and Herschell the organ is very large. It is also very large in the scull of Descartes, and in the cast after death of Laplace. But in Laplace the organ was not so leading a feature as it was in Newton, or, perhaps, in Herschell. It was not so conspicuous in his head as the organs of those faculties which constitute a genius for analysing and reducing accumulated materials to method.

The portrait of James Bernouilli resembled the mask of Newton very much in the form of the lower part of the forehead; but it was not quite on a par with Newton's in the upper part of it.

This organ is prominent in the foreheads of such writers as have shewn great talent in describing beautiful scenery. In the busts of Byron, by Thorwaldsen and Bartolini, it is well-developed, and certainly his descriptive powers were of the highest order. He felt conscious of this himself, for he somewhere says, "Description is my

forte." The same faculty was one of the active ingredients in the fertile genius of Sir Walter Scott, and we find that, in perfect accordance with it, there is a marked development of the organ of Locality in the cast of his head, which was taken some years before his death. Moore's genius, also, was in this respect of a very high order, and the organ forms a conspicuous feature in his mask, which was taken from nature.

To a general commanding a large army and conducting a campaign in an enemy's country, it is of great advantage to possess this faculty in an eminent degree. Otherwise he is compelled to rely upon the good offices of a subordinate, who is gifted with a superior endowment of it. In the cast after death of Napoleon the organ is large, but it is not remarkably salient, owing to the very fine development of all the organs situated around it. It is well marked in the bust of the Duke of Wellington, by Nollekens. In the most authentic busts of Julius Cæsar this organ is very conspicuous, and his "Commentaries" show how vivid was his perception of places and of their relative position. In the fine expressive bust of Sylla it is also large, and in those of Trajan and Hadrian. But in all these great men its influence was subordinate and ancillary to higher motives than the mere love of travelling. They travelled to effect a purpose, but that purpose was not merely to travel.

It would be hard to form an adequate estimate of the blessings which have fallen to the lot of mankind by the judicious following of the instinctive promptings of this fundamental power. To have invariably resisted its instigations would have left nations for ever ignorant of the good things to be found in foreign climes, but which have been denied to their own, and have left unsur-

mounted a barrier which, but for the innate craving of the disposition to visit new and remote places, would for ever preclude the occurrence of that interchange of man's moral and intellectual attributes, upon which the happiness of social life depends—attributes, the value of which are enhanced by travelling, from the fact that it affords men the opportunity of opening new ways to happiness for others less advanced in the social scale than themselves, and again, to gather together for their own benefit, the advantages which are only to be found in those remote regions.

It is to this faculty, then, that the rapid spread of civilization is in a great measure due, though it is incapable of forming any notion of what civilization is. But for its promptings, where now would commerce with all her blessings be? Where would be the fair prospect of new homes for redundant populations? Great is the glory due to such men as Columbus, Vasco de Gama and Cooke, to Drake and Magellan.

NUMBER.

THE sense of the Relation of Numbers is undoubtedly an elementary faculty of the mind. This is abundantly proved by the singularly powerful talent which has been often displayed by children, sometimes under six years of age, with reference to the computation of numbers. And this power has in all these precocious instances made its appearance independently of any previous instruction or opportunity of knowing from others that such a thing as arithmetical calculation existed. They were in almost every instance the children of poor parents. What then, but an instinctive perception of the relation of numbers could have enabled a child, named Noakes, at the age of six years, to solve, in a minute or so, most difficult arithmetical questions, which were put to him by a mathematician out of a book of logarithms, which he had brought to Deville's gallery for the purpose of providing against any mistake. I saw that child, on that occasion, standing on a stool, and calculating aloud the most difficult sums without making the slightest mistake. His talent for multiplication was truly astonishing. Sometimes he would run into a corner and return in a few seconds with the true solution of a most difficult problem. In order to see the effect of interrupting him, Mr. Deville sometimes talked to him, so as to make him laugh, but the little fellow, without being in the least disconcerted would

resume his calculation exactly where he left off. In all other respects this prodigy of arithmetic was a mere child.

The equally extraordinary case of the child, George Bidder, has been often recorded; and Zarah Colburn, the American, displayed in his childhood wonderful genius for arithmetical calculation.

But perhaps the most extraordinary instance of arithmetical genius appeared in the person of a poor illiterate day labourer, by name Jedediah Buxton. His talent, in this way, was truly surprising. So tenacious was his memory of the relations of numbers that he could, without an effort, and after a lapse of years, resume calculations that had been interrupted. In every other respect he was, it is said, a simple-minded poor man. In the remarks on Attention, I have given rather a ludicrous instance of this, in describing the impression made upon him by Garrick's fine performance of one of his principal characters.

Some sixty years ago there lived near Tuam, in the county of Galway, a poor labouring man of the name of Shoanoke. He had never received any intellectual instruction. He had no schooling, as the poor people used to say. Nor could he speak a word of English. And yet his talent for arithmetical calculation was very great. He used, as I have been told, a peculiar cypher, known only to himself, which he marked with a common nail. He was a self-taught land surveyor, and manifested singular practical skill in his vocation. For instance, it happened on one occasion that a professed surveyor pronounced Shoanoke's measurement of some land to be erroneous. Shoanoke, feeling perfect confidence in his own accuracy, demanded an appeal to the most

eminent surveyor in the country. The appeal was made, and it resulted in the complete triumph of the self-instructed peasant. It is, also, a fact worth mentioning that all his measurements were effected by means of hay ropes, twisted by himself for the occasion, and marked in the respective intervals by bits of cloth. Did not this poor man's genius proceed from within? Was it not as instinctive as the migratory tendency of birds?

Gall was first led to think of the faculty of Number on witnessing at Vienna the extraordinary calculations of a boy only nine years old. "When they gave him," says Gall, "three numbers, each expressed by ten or twelve figures, asking him to add them, then to subtract them, two by two, to multiply, and then divide them by numbers containing three figures, he gave one look at the numbers, then raised his nose and eyes in the air, and announced the result of his mental calculation before my auditors had time to make the same calculation with their pens in their hands. He had created the method himself." There was, also, in Vienna, at that time a child five years old, the son of an advocate. This child was so "exclusively occupied with numbers and calculations it was found impossible to fix his attention on anything else, even the sports appropriate to his age." The father, being troubled at this, brought the child to Gall, who compared it with the first, and he says, "I could find no other resemblance between their heads than a remarkable prominence at the external angles of the eyes, and immediately at the side. In one as well as the other, the eye was in a degree covered by the superior lid at its external angle." Gall, who says "he had already made great advances in his theory of the plurality of organs," then conceived the idea "that the

talent for calculation might well be a fundamental faculty, depending on a particular organ." Having subsequently found the same part protuberant in every one whose chief capacity was manifested in the pursuit of arithmetical calculations, he says, "He saw nothing to prevent him from considering the faculty of numbers, as a peculiar faculty, and admitting a peculiar organ for this faculty."

And when the cases I have adduced, shall have been fairly, and without prejudice, considered, I see no reason to doubt that Gall's inference will be universally acquiesced in.

The organ of Number is situated outside each of the external angles of the eyebrows; and, when very large, the brow, at its outward extremity, sometimes has a tendency, as it were, to overlap, in an unusual degree, the angles of eye, at the same time it spreads outwards and upwards with remarkable saliency, so as to resemble, in some cases, the segment of a filbert. Such was the case in the two casts of little Noakes, taken by Mr. Deville, at an interval of two years. The first was taken when he was but six years old. I observed a similar conformation of the same part in the mask of the Vienna boy, mentioned by Gall. In the last of several casts of Mr. George Bidder, taken by the same able practical phrenologist and conscientious, indefatigable collector of facts to prove the undeviating soundness of Gall's doctrine, as to the connexion between the elementary faculties of the mind and particular organs of the brain, the form of the external angle of the brow is somewhat different. There is not the same appearance of heaviness; but the fullness outside of the angle towards the temple is very great, just at the part which appears rather hollow in most persons. In this peculiarity of conformation, Bidder's cast strongly resembles that of

Zarah Colburn. This diversity of form is the result of the greater or less development of the organs which occupy the brow, as well as those of Music and Constructiveness, which lie just above that of Number. In a fine proof impression of the mezzotinto print of Jedediah Buxton, now lying before me, the development of this part is much greater than in any of those I have mentioned. And this great fulness extends equally upwards, downwards, and outwards. No one can help being astonished at the enormous size of the organ in Buxton, when this engraving is compared, as I have just now done, with the print of Cowper the poet, by Bartolozzi, after Lawrence, and that of the poet Akenside, engraved by Fisher, from a picture by Pond. Now, it is not to be supposed that these eminent poets were wanting in a fair perception of the relation of arithmetical numbers, but yet I am not aware that they were ever remarkable for arithmetical talent; notwithstanding their superiority in all other respects to this surprising calculator. Again, compare the fine engraving of Descartes, by the celebrated Edelinck, with that of Thompson, the poet of "The Seasons," by Basire, after a picture by J. Paton, and see the vast disparity in the development of the part in question. Or contrast the casts from nature of Napoleon and Gall. In that of the former the organ of Number is very large, in that of the latter it is small. And, in exact accordance with this state of things, Napoleon was a great arithmetician and was supposed to hold the fifth place as geometrician at the Academy of Sciences, when Laplace and other great men were flourishing, although he could give but little of his attention to such subjects. But, in him it was somewhat of an instinct. On the contrary, every kind of numerical calculation fatigued Gall, as his biographer relates; and

he says, moreover, "we believe we never saw him go through a process in simple multiplication or division that was at all complicated. He knew nothing of geometry, nor the problems of mathematics." Gall was also remarkable for a very moderate endowment of the organs of Form, Size, Locality, and Order, all of which are essential elements of genius for geometry.

The celebrated George Combe, who has done such great things for the spreading of Phrenology through nations, had but little capacity for arithmetic. A friend of his own told me that it was amusing to see how he laboured to tot up his simple accounts, after a method of his own. I believe he did not clearly understand the ordinary rules of arithmetic.

Combe's singular inaptitude to comprehend the simplest relations of numbers, without intense mental struggles, is readily accounted for by the inadequate development of the organ of numerical calculation in his head. In the cast from nature it is very small. How much the development of this organ in the cast from nature of Airy, the astronomer royal, taken by Deville, differs from that of George Combe. In Airy's head the organ is very large. It is very large in the mask from nature of Sir Isaac Newton, in the cast from the head of Laplace, and in that of the scull of Descartes. In a great many other distinguished characters I could follow up the like contrasts. But some may, perhaps, consider that enough has already been adduced. Nevertheless, it would not be well to neglect mentioning the portrait of John Bartlett, engraved in mezzotinto, by James Watson. Appended to the engraving is the following account of him. "Originally a shepherd, in which station he, by books and observation, acquired such a knowledge in

computation and the heavenly bodies, as induced the late George Earl of Macclesfield to appoint him assistant observer in his observatory at Sherburn Castle. He was born at Stoke Talmage in Oxfordshire, August 22, 1721, O.S." The development of the organ of the relation of Numbers is very large in this head.

I will conclude with this averment that no contradictory instance has ever yet been brought forward by any of the numerous bitter opponents of Phrenology tending in the smallest degree to weaken the evidence which shews that great arithmetical genius is always accompanied by unusual fulness of the part of the head which lies outside the external angle of the eyebrow, and that marked weakness of that faculty is surely indicated by a scanty development of the same part.

ORDER.

THE sense of Order has been dealt in different measures to different individuals. Some persons take the greatest pains to preserve their houses and every article belonging to them, whether needful or not, in a neat and orderly condition, and they feel great discomfort, and are often betrayed into anger at seeing things out of their proper position. Others, on the contrary, allow their furniture and wardrobes to fall into disorder, and do not feel at all disturbed at seeing everything in confusion around them. There are some, again, who are pleased with order and neatness, but who will not put themselves out of the way to keep things in that state.

That mental superiority is not the cause of excellence in this respect is proved by the fact that some idiots have been known to manifest a strong propensity for keeping things in order, while men of great mental acquirements and original genius have evinced a marked inaptitude for doing the like. Doctor Gall himself is an example of singular carelessness in keeping his things in order. Hear what his biographer, Dr. Fossati, says as to this point. "If it be true, as we believe it is, that there is an organ of Order, Gall was absolutely destitute of it. The arrangement of his house was a curiosity. He said it was order to him. Let one imagine to himself, huddled together in his bureau drawers, for instance, old journals,

quittances, advertisements, letters from distinguished men, pamphlets, nuts, pieces of gold, silver, and copper, and packets of seeds. We have seen him take up a bundle of these papers and shake out from them the money he happened to need. In this manner he kept his records and his desk."

These cases prove, beyond a doubt, that love of order does not at all depend upon the general ability of an individual. And since it is sometimes found in idiots, to be the only intellectual faculty displayed; and seeing that no power of the mind can shew itself without having its organ in the brain, it becomes of importance to learn where this organ is to be found.

Now, it is rational to suppose that the mental attribute, which prompts us to put and to keep things in order, should have its organ lying amidst or near those which give a knowledge of things, their qualities and numbers. And as there was only one convolution in the forehead which was not the well attested seat of some faculty, Spurzheim was led to conjecture that that must be the organ of Order; for experience and reasoning had convinced him that there certainly does exist a distinct faculty for taking cognizance of that attribute.

This convolution lies between those of Colour and Number; and, when large, it gives a prominence to the external angle of the eyebrow.

Subsequent assiduous and scrupulous investigators have fully established the truth of Spurzheim's discovery. And there can hardly be met with a more marked example of the smallness of the organ of Order than may be seen in the cast of the head of Gall; who, as his biographer says, was very deficient in the faculty. Contrast this cast with the bust of the duke of Wellington, by Nollekens, and

the great disparity, in regard to the size of this particular part of the brow, cannot fail to arrest attention ; for the organ was extremely large in the duke, and his love of order was intense. These two striking cases serve as strong evidence in proof of Spurzheim's opinion. Indeed, wide experience justifies phrenologists in their firm conviction that the existence and seat of the organ of Order are perfectly established facts.

The sphere of activity of this faculty appears to have been confined by phrenologists to its bearing upon physical objects. But it is certainly an undue curtailment of its power to confine it within such limits, for there is abundant evidence to shew that it is a very valuable ingredient of the composition of faculties, which enable a man to arrange his thoughts rapidly, and to communicate them with facility. It is not that this happy talent is absolutely dependent upon the presence of a well developed organ of Order. This is sufficiently manifested in the case of Gall, whose writings attest his capacity in that way. Still it may with truth be averred that, if Gall had possessed a better development of Order, his facility of arranging his ideas would have been enhanced and his powers of spontaneous oratory augmented.

In all those great writers, who have had the power of rapidly concentrating and arranging their thoughts, and of harmoniously expressing them, the development of Order is considerable. In Bolingbroke and his friend Chesterfield the external angle of the forehead is very salient. In the portraits and busts of Pope this part of the brow is remarkable for the beautiful blending of Order with the organ of Time and other contiguous organs. And can there be named, in the whole range of literature, any one who has displayed more ability in the harmonious

arrangement of his words and the pointed concentration of his thoughts. A somewhat similar conformation of the same part is strikingly observable in Houdon's fine bust and statue of Voltaire. In the busts of Byron, by Thorwaldsen and Bartolini (the only authentic ones), the development of the part in question is strongly marked, and Scott, so fertile in imagination and rapid in composition, has left in the cast of his head from nature a striking instance of the prominence of the region of Order. In Crabbe, Coleridge, Southey, and Wordsworth the same sort of prominence appears over the external angle of the eye.

This organ is remarkably developed in the plaster cast of Dr. Johnson, taken after his death by the desire of Sir Joshua Reynolds. And, to use the words of Chesterfield, when he was describing the splendid eloquence of his friend Bolingbroke, . . . "even his most familiar conversation, if taken down in writing, would have borne the press without the least correction either as to the method or style."

But it is not to be supposed that a large organ of Order is essentially necessary to the harmonious arrangement of our thoughts. The case of Gall himself, as we have seen, is a proof of this, and a corroborative instance is to be found in a far greater master of composition and oratory than either Gall or Johnson—Edmund Burke, who rests without a superior, either ancient or modern, in the splendour of his oratory and the statesmanlike wisdom and eloquence of his political writings. In the cast of the face of this great writer, which was taken at a rather early period of his life by his protégé Hickey, the sculptor, the organ of Order is not a salient feature. Not that it is in itself at all defective, but because the beautiful and

harmonious arrangement of all the other organs of his expansive forehead, if it does not cause an overshadowing of that organ, renders it much less conspicuously developed than it appeared to be in his friend Johnson. Burke's immense organ of Ideality tended to curtail the influence of Order, and this bias of the mind was augmented by an imagination naturally fertile in the extreme, and richly cultivated with the seeds of knowledge in almost all their varieties. For some good judge remarked that there was nothing which Burke did not seem to be acquainted with. It is to these splendid endowments, not sufficiently restrained by a comparatively moderate sized organ of Order, that what has been called Burke's deficiency in logical precision, if such were really the case, is to be attributed. It was this that caused Erskine to say that Burke was "too episodical," and which caused Curran to pass that unwise, indiscriminating censure upon his great countryman and fellow patriot, namely "That his mind was filled with gauds and shows and badly-assorted ornaments." Such a criticism as this could not have been made by a man of Curran's superior intellectual powers, unless there was something in Burke's style of speaking and writing which to Curran's mind betrayed the absence of the quality of Order. Very different from this was Grattan's estimate of Burke, for on being asked one day his opinion of Burke by some person who was lauding the super-eminent wit of Curran, he said, "The wit of Curran is certainly exceedingly brilliant, but Burke too has wit, and is also wise." On another occasion Grattan says, "Mr. Burke, the prodigy of nature and acquisition! He read everything, he saw everything, he foresaw everything. His knowledge of history amounted to a power of foretelling." This last

passage may be deemed irrelevant to the subject under discussion, but it is introduced as a potent antidote against the injudicious and inconsiderate criticism of Curran. Yet this organ, though adequately developed, was not so large in Burke as it was in Johnson, and perhaps the captivating variety of Burke's style may be in a measure attributed to this peculiarity.

I feel convinced that if we take two statesmen, whose moral and intellectual endowments are as near as can be on a par, while the organ of Order is small in one and large in the other, we shall find that the latter will be a more ready debater than the former. The organ is very large in the mask from nature, after death, of William Pitt, so remarkable for the admirable order displayed in the arrangement of words and sentences, even in his unpremeditated harangues. In the portrait of Charles Townsend, by Reynolds, the organ of Order is large. And this is what was said of him by his cotemporary Burke, "If," says Burke, "he had not so great a stock as some have had, who flourished formerly, of knowledge long treasured up, he knew better, by far, than any man I ever was acquainted with, how to bring together within a short time all that was necessary to establish, to illustrate, and to decorate that side of the question he supported. He stated his matter skilfully and powerfully. He particularly excelled in a most luminous explanation and display of his subject. His style of argument was neither trite nor vulgar, nor subtle and abstruse. He hit the House just between wind and water."

It will be understood, of course, that the plan of his speeches was devised by the reflective faculties—Comparison and Causality—acting upon the faculties that acquire knowledge. To Order belongs, partly, the power

of keeping, without effort, the intellectual faculties from diverging from the point at issue, and of helping to concentrate and arrange them. I use the word helping, because long experience has taught me to feel convinced that the sense of time, as it flows on, is, as to this end, a powerful auxiliary to order. This will, it is hoped, be satisfactorily shewn when the separate existence of the organ which enables us to appreciate time, and renders us instinctively sensible of its progress, independent of any notion of incidents which mark epochs, comes to be considered.

The organ of Order is certainly a most important one, and it would, as has been already hinted, be a mistake to suppose that its action is restricted within the bounds of physical objects. It is, for instance, a powerful auxiliary to the faculty of Number. In mental arithmetical calculation the power of recollecting the proper arrangement of the figures must be indispensable. And it is a fact that the organ of Order is well developed in great mental calculators. It is so in the casts of those precocious children, Zarah Colburn, Bidder, Noakes, and several others. Music, too, finds a good handmaid in order. But it is not so useful or necessary in the composition of simple melody as in the production of complicated harmonies. Extensive experience shews that the great masters of harmonious combinations of melody were endowed with an ample development of the organ of Order. In the mask of Weber, so conspicuous for the great fulness of the organ of Tune, Order is a prominent feature. In the portraits of the greatest musicians, in Handel, Mozart, Haydn, Beethoven, it is large. And if Order is a source of help in the composition of music, and in arithmetical computation, why should it not be

deemed an important auxiliary in the arrangement of events, as they happen in the order of time, and of words as they are used in giving expression to those events.

It is not strange that the function of Order should be, at first, confined to physical things, as through them its peculiar quality was rendered more readily apparent.

In early childhood much attention should be paid to the cultivation of the faculty of Order, for it is also an essential ingredient in the mental constitution of an industrious person. It has a share, too, in developing that valuable attribute, punctuality, which is so indispensable to success in any occupation.

This organ is larger in the masks from nature of Pitt and Fox than in that of Richard Brinsley Sheridan. It is very salient in the casts of Napoleon and Oliver Cromwell, and it is still more characteristic of Wellington.

There can be no doubt that the existence and position of the organ of Order is thoroughly established (see Plate 7).

EVENTUALITY—SENSE OF FACTS.

WHEN treating of the organ of Individuality it was found necessary to encroach upon the domain of Eventuality, since Gall was of opinion that the part of the forehead occupied by them consisted of one organ only, to which he attributed modes of action which were subsequently considered by Spurzheim to require the agency of two. Indeed, it is not easy to draw a clear line of distinction between their functions, as both are endowed with the power of perceiving things in their individualities. But yet it seems quite certain that there inheres in the organ of Eventuality a range of power, of which no conception can be formed by Individuality.

Individuality perceives some substantial thing in its unity, but has no power to perceive its accidents of form, size, or colour. Eventuality recalls to mind the fact that something has been seen, or felt, or heard somewhere; but it is not always capable of distinctly remembering what that thing is, though it is ardently desirous of doing so. For instance, a visit to a theatre recurs to the mind, and there arises a consciousness that on that occasion much pleasure was felt on hearing a song sweetly sung. But, for awhile, the memory fails to recall either the song or the singer, or even the theatre. In this case, Eventuality remembers the naked fact that a sweet song had been heard somewhere. But, as it is not within the sphere of its capacity to recol-

lect without assistance the specialities of that fact, it becomes anxious and importunate, like one who yearns to recover some cherished thing that has been lost.

Its state of excitement is after a while shared in by those organs in its vicinity, which alone are capable of recalling these specialities, and through their co-operation a thorough remembrance of all the incidents connected with the fact is effected. But, unlike Individuality, this organ is not content to rest satisfied with a knowledge of things external. As the special appreciation of phenomena it embraces the workings of the reflective organs, Causality and Comparison. And as the most affecting and emotional of phenomena consist of the moral and religious sentiments and animal propensities, Eventuality must become conscious of their presence also. Hence, it should be looked upon as a central repertory of knowledge. And its innate characteristic is the love of knowledge. To this end it is, to use an expression of Burke's, "omnivorous." But it is not capable of selecting its food, except through the intervention of auxiliaries, which according to the measure of their power to discern, might contribute what was wholesome or unprofitable, or, may be, erroneous. In such an emergency to discriminate is beyond its power. For, example, if a person be so incapable of distinguishing one colour from another, that to him blue appears to be red, and red to be blue, can Eventuality see that this is a false judgment? No. For it cannot, by itself, gain a notion of the imperfection of the other organs. It can learn this only through the agency of individuals, who are endowed in this case, for instance, with a refined perception of colour in all its varieties and combinations. It then believes the fact on extraneous evidence; yet it cannot appreciate or realize it. But as Eventuality is the organ of the love of

knowledge and the source of curiosity in the general acceptation of the term, it will naturally desire to obtain a true notion of the cause of its misjudgment. With the aid of Causality, Comparison, and the perceptive organs of Size, Form, and Locality, it becomes aware of the cause, by having pointed out to it the fact that the organ of Colour is in that particular instance so poorly developed that it is incapable of performing its natural functions thoroughly.

Seeing then that this organ of Eventuality is the only one that can become sensible of the existence and of the special functions of all the other organs, whether they relate to external things or to inward thoughts and feelings, it follows, in the course of reason, that it must embrace within its sphere of action the notion of the entity Self. And for the same reason it seems right to assume that it is also the true seat of Consciousness, that mysterious abode so long sought for in vain by the most able students of metaphysical science.

If this is the case, Eventuality is the only faculty that is capable of comprehending, not only the existence of the several faculties, but also their modes of action, both individually and collectively. And as action implies motion and change, it must be desirous of noticing the changeful and changing condition of things. The truth of this *à priori* inference is confirmed by the fact that men, who evince a decided predilection for political pursuits, independently of ambitious motives, are possessed of a superior development of this organ. It is a marked feature of the forehead of a vigilant and attentive administrator of affairs when they are at all numerous and diversified.

It is from men of this class that some of the most

interesting and remarkable positive evidences are found of the local position of the organ of Eventuality. And the numerous negative proofs of its situation are derived from the heads of men of genius, who felt disinclined to meddle in public affairs ; or of men who, though unendowed with an adequate development of this organ, have through ambitious or other motives been led by a concurrence of circumstances into the arena of political life ; but whose failure as leading and actively efficient statesmen was matter of notoriety.

Few men of any age have held so famous a place in the world's history as Pompey the Great and his mighty antagonist Julius Cæsar. They were both ambitious, both heroically brave, and both possessed of superior talents. But the essentially active and practical genius of Cæsar was vastly superior in promptitude and efficiency to that of his rival. This superiority was owing, in a great measure, to the relative incapacity of Pompey to grasp and appreciate events as they were passing around him. The vast influence which Cæsar was constantly gaining over the affections of the people, and the sure foundation he was thus laying for his future elevation and success, if they did not escape the notice of Pompey, they certainly did not sufficiently arouse his vigilance. For, while he thought that by merely stamping his foot on the ground armed men would arise on all sides for the defence of the Republic, Cæsar had crossed the Rubicon. And, while he was waiting for events, Cæsar was anticipating them. Pompey loved to rest upon his oars when he found that fortune's bark had wafted him to a position of the highest earthly glory. Cæsar's great achievements only stimulated him to fresh encounters. "*Nil actum reputans si quid superesset agendum,*" is the

characteristic designation applied to him by the poet Lucan. He thought nothing was done while anything remained to be done.

Now, it was not personal courage that was wanting in Pompey. He was endowed with as much of that quality as any man, and his corporeal energy was great. But he was not gifted with a sufficiency of intellectual vigilance and fertility of genius in devising resources to meet and counteract effectually the progress of his great opponent, and he seemed incapable of making such vigorous mental efforts as were imperatively demanded to stem the tide of dissolution which had already almost swamped the Republic.

The immediate source of this indolence is traceable to the moderate development of Individuality and Eventuality in a forehead which, in other respects, was finely developed, while the surprising and incessant activity of Cæsar's intellect is mainly due to the striking protuberance of the same organs, supported as they were in him by a noble endowment of all those intellectual organs which foster assiduousness.

This description of Pompey's forehead is founded on a very fine authentic bust of him, formerly in the phrenological collection of the late Mr. Deville. That of Cæsar rests for its authority on medals, and what are deemed to be authentic busts of him; one of the best of which was also in that collection. This head was brought from Rome by the father of the late Lord Northwick.

The superior presence of mind of Cæsar was the result, in a great measure, of the uncommon strength and activity of these two organs, for to them is due his rapidity in perceiving every object and circumstance which, from the suggestions of his powerful organs of Comparison and

Causality, he saw were calculated to raise serious obstacles to the fulfilment of his purpose. And they were influential ingredients in the compound of faculties which enabled him to seize the most effectual means of counteracting unexpected occurrences with greater promptitude than almost any other individual in history. And the marvellous power of dictating to four amanuenses, or even more, at the same time, was dependent in a great degree, though not entirely, upon the superior force of these organs.

Eventuality and Individuality are very salient in the high and symmetrical forehead of Sylla the dictator. And his success as a politician, both in a civil and military capacity, entitled him to take to himself the surname of Felix, or the Fortunate.

Had Pompey, great as he was in some respects, been aware of the influence of these organs upon the conduct of men, he would not have fallen into the habit of saying, "*Sylla potuit ego non potero?*" "Wherein," to use the words of Bacon, "he was much abused; the nature and proceedings of himself and his example being the unlikeliest in the world, the one being fierce, violent, and pressing the fact; the other solemn and full of majesty and circumstance, and therefore the less effectual."

Notwithstanding the fine development of Caius Marius's forehead it is far below Sylla's in the development of Eventuality, and Marius, though a subtle politician, was not an able one.

Again, let the bust of Marcus Brutus be compared with that of Cato the Censor, and the superiority of the latter in regard to the development of these organs will be instantly apparent. In strict accordance with these cerebral characteristics we find that Brutus was

a speculative philosopher of virtuous aspirations, but an unsuccessful politician and administrator. Cato's views and conduct, on the contrary, were eminently practical. His administrative talents were of the highest order. This was proved in the field at the head of the army, in the senate as an orator and a political actor, as a cultivator of the soil, and a rearer of cattle in the country, and in the closet as a historian of great ability. Livy says that Cato had a versatile genius. Now, this versatility was owing to the great size of the organs of Individuality and Eventuality. It must be understood, of course, that the power of giving effect to his versatile intellectual tendencies depended upon the co-operation of other organs. And amongst them that of Language formed a conspicuous feature.

Marius, who succeeded him as the bitter enemy of the patricians, was not possessed of a versatile genius; and he was totally regardless of literature.

To account for his inferiority to Cato in these respects, it is only necessary to compare the fine antique heads of them, the forms of which leave no room for a phrenologist to entertain a doubt of their authenticity. For instance, in the powerful forehead of Marius the organ of Language is small; and the other two organs are not characteristic.

The remarkable saliency of these two organs in the busts of the Emperor Adrian is conspicuous; and his most striking mental characteristics exactly coincide with the great size of this portion of the forehead. For Adrian was, as Bacon says, "The most curious man that lived, and the most universal inquirer, inasmuch as it was noted for an error of his mind, that he desired to comprehend all things, and not to reserve himself for the

worthiest things." So great was the curiosity and unquenchable thirst for knowledge of Adrian.

It will have been seen that these organs are indispensable elements in the cerebral constitution of a successful administrator of the affairs of a people. Here is what Bacon says of Adrian upon that head. "And for his government civil, although he did not attain to that of Trajan's in the glory of arms or perfection of justice, yet in deserving of the weal of the subject he did exceed him." Again he says, "But Adrian spent his whole reign, which was peaceable, in a perambulation and survey of the Roman empire, giving orders and making assignations where he went for re-edifying of cities and towns, and forts decayed, and for cutting of rivers and streams, and for making bridges and passages, and for policying of cities and commonalties with new ordinances and constitutions, and granting new franchises and incorporations, so that his whole time was a very restoration of all the lapses and decays of former times."

As a marked contrast to the head of Adrian, it may be interesting to cite that of the Emperor Tiberius, in which these organs are ill-developed and flat. Now, this cruel man is a notorious instance of intellectual indolence with respect to the care and the directing of the affairs of State. These he let fall entirely into the unworthy hands of his favourite Sejanus. In the head of the enlightened and beneficent Mæcenæ, the organs of Eventuality and Individuality, are very protuberant, while they are comparatively moderate in the head of Augustus. And hence it may be inferred that that subtle ruler, who prided himself upon having acted his part so successfully in the drama of life, was indebted for much of that success to the political vigilance of his accomplished and wise

minister, by whose instinctive clemency he was led to curb those unmerciful tendencies of his character which, by being given way to, were sure to strip him of the affections of the Roman people.

Before we take leave of the ancients it will be instructive to compare the head of Antoninus Pius with those of Adrian and Tiberius. Unlike the latter and like the former the bust of that good emperor and most virtuous of men shews a fine development of Eventuality and Individuality. But he was endowed with a much larger organ of Causality than Adrian's bust displays. Hence it is to be inferred, according to the natural laws disclosed by the Science of Phrenology, that Antoninus possessed a capacity for perceiving and remembering in their minute details the changeful and changing condition of public affairs, and was gifted with a strong thirst for knowledge, as well as Adrian, but that he would be disinclined to give way to that restless pursuit of it, which marked the conduct of his adoptive father. This was owing partly to his paramount organ of Causality and partly to the predominant development of the organs of the moral and religious sentiments, as well as to the subordinate state of those of Self-esteem and Love of Approbation. Now, these two last-named organs were salient features in the generally well-organized head of Adrian, and personal ambition and an ardent love of display were leading attributes of his disposition—attributes which were not in the least degree germane to the pure and unselfish character of Antoninus.

The influence of Causality upon the intellectual character of this good man is well shewn in Lord Bacon's description of him. "Antoninus Pius," says he, "who succeeded him (Adrian) was a prince excellently learned,

and had the patient and subtle wit of a schoolman ; insomuch as in common speech, which leaves no virtue untaxed, he was called '*cymini sector*,' a carver, or a divider of cummin seed, which is one of the least seeds ; such a patience he had and settled spirit to enter into the least and most exact difference of causes, a fruit no doubt of the exceeding tranquillity and serenity of his mind ; which being no ways charged or encumbered, either with fears, remorse, or scruples, but having been noted for a man of the purest goodness, without all fiction or affectation, that had reigned or lived, made his mind continually present and entire. He likewise approached a degree nearer unto christianity, and became, as Agrippa said to St. Paul, half a Christian ; holding their religion and law in good opinion, and not only ceasing persecution, but giving way to the advancement of Christians."

It will not, it is hoped, be deemed irrelevant to the immediate subject of discussion to have quoted this passage from the "Advancement of Learning," when it is considered that a finer example of the firm and truthful basis upon which the science of Phrenology rests cannot be met with than the bust of this good emperor, now in the British Museum, presents. He was a minute observer through fine organs of Individuality and Eventuality. His subtle faculty of defining the least and most exact differences of causes arose out of a powerful and characteristic Causality, supported by an equally effective Comparison, acting upon materials presented to it by the other two. These also ministered to his success in the transacting of public affairs. And they were all rendered more effective by an exceedingly fine development of the organs of Time and Order, which insured the habit of punctuality and industry.

But it would be wrong to suppose that his patient and settled spirit to enter into the least and most exact differences of causes was simply the fruit of his tranquillity of mind, as Bacon has supposed. No doubt his serenity of temper favoured the frequent prosecution of such mental exercises, and his rare moral purity ensured the probability of his arriving at just conclusions. Indeed, it is not always the man of brightest intellectual faculties that is the wisest man. But to his peculiar intellectual characteristics alone is to be attributed his proneness to enter into abstruse disquisitions, as well as his capacity for conducting them.

When Sully wrote "that practical details of business were to Henry the Fourth merely an amusement, and that his mind adapted itself with the same ease to things small or great," he had no clue to guide him to the source from whence that talent arose. But to the studious disciple of Gall that source is no longer a mystery. For the region of the forehead, which comprises the organs of Individuality and Eventuality, is remarkably salient in the mask of that great and generous king, which was taken from his face after death. A like prominence of these organs characterises the broad forehead of Frederick the Great of Prussia. And his extraordinary attention to the minute details of events was a marked feature of his great administrative talents. The fine whole length mezzotint print of him, published at Berlin in 1786, by Cunningham, the painter of the portrait, is a striking illustration of that fact.

Notwithstanding the genius of Voltaire he was not led, like his royal and capricious friend, by an inward monitor to devote his attention to the practical administration of political affairs, though his writings exercised a powerful

influence in forming the political opinions of his contemporaries. How opposite was his mode of acting in this respect to his great countryman, Richelieu, whose vast administrative genius was so highly prized by Peter the Great, that Voltaire says this extraordinary ruler was "quite in rapture on visiting the tomb of Cardinal Richelieu." And he continues, "The beauty of that masterpiece of sculpture scarcely attracted his eye; his admiration was engrossed by the image of a minister, who had made himself famous throughout Europe by the commotions he had raised, and who had restored to France that glory which it had lost after the death of Henry the Fourth. When he embraced the statue of that great man, he exclaimed, "Thou greatest of men, I would give thee one-half of my dominions to learn of thee to govern the other half."

Now, this striking intellectual disparity, in respect to these two extraordinary men, is easily accounted for by those who are guided by the fundamental laws of Phrenology, and it cannot be deemed presumption to say that the profoundest metaphysics would fail to discover the efficient cause of such a dissimilarity of talents by means of the brightest light which their system of mental philosophy is capable of spreading along the intricate path they are fain to pursue. The phrenological explanation, on the contrary, is demonstrable. It is as "palpable to feeling as to sight." And it consists in this,—that the fine forehead of Richelieu was characterized, in an eminent degree, by the largeness of the organs of Eventuality and Individuality; while these are not salient features of the harmoniously balanced intellectual organs of Voltaire. Nanteuil's beautiful engraving of the one, and Houdon's expressive bust of the other, are admirable illustrations of these facts.

It is interesting to observe that in the forehead of Richelieu the organs of the reflective faculties, though broad and well marked, were yet, as to their development, rather subordinate to those of the perceptions. Hence he would be prompted even by his intellectual instincts to pursue a life of action rather than one of contemplation. But, when his resoluteness, his fearless intrepidity, and his towering ambition (qualities of which his portraits are strikingly symbolical) are taken into account, it would be strange indeed if such were not the case. The multiplicity of his projects was so extraordinary that, notwithstanding their feasibility, as was afterwards proved by Mazarin, he did not live long enough to carry them, all through the formidable obstructions by which they were encompassed. His prodigious capacity for grasping in detail the circumstances necessary to the carrying of his State policy to a successful issue had its source in his powerfully developed organs of Individuality and Eventuality. And to the superior development of the organs of Time and Order is to be attributed his capacity for arranging those circumstances in the form best calculated to suit his purpose. To them was due, also, in a great measure, his indefatigable industry. Like Voltaire he was endowed with a very large organ of Language; and like him he shewed, at a very early age, both taste and talent for literature. And to the last, though beset by turmoil and strife, he was the encourager and friend of men of letters.

But vast capacity for the conducting of public affairs which was in his case stimulated by "vaulting ambition" and love of power, caused him to forsake the tranquillity of the cloister and the closet for the turbulence of the political arena.

In Voltaire's bust, on the contrary, the organs of

Individuality and Eventuality are not relatively prominent, while that of Language is dominant. The reflective organs also are strikingly characteristic. And those of Ideality and Wit, or the sense of the ludicrous, are conspicuous features.

It is to be inferred from these cerebral indications that this extraordinary genius, notwithstanding the restless activity of his mind and his ambition, was a man of contemplation rather than of action, and that he was more fitted to criticise the acts of others or to suggest them than to take an active part himself in the conduct of public affairs. Such a forehead is indicative of a strong bias towards intellectual scepticism and of proneness to form conclusions that are somewhat too general in their bearing. This is owing to an indisposition to engage in the strict and scrupulous investigation of the dry details of facts and things.

In the bust of Buffon, by Houdon, these two organs are very large and strikingly characteristic, and the genius evinced by him in the investigation and eloquent description of objects of natural history in their minutest details is in that respect of the highest class. The frontal development of Buffon led him instinctively to the study of physics, as these are connected with the animal kingdom. Ethics were by the same rule more germane to the comprehensive and versatile genius of Voltaire. But his ethical views, both in regard to politics and theology, were perverted by certain moral peculiarities of character, and of the existence of these his bust affords striking indications. One of these is insincerity. And this spirit of insincerity, engendered by dominant Secretiveness and moderate Conscientiousness, was kept alive by an ardent love of notoriety, lest by any means that love should be thwarted.

If we are desirous of learning why it was that the greatest of German poets, Goethe, unlike the most famous of French poets, was strongly addicted to the study of natural history, the source of his predilection may be seen in the remarkable saliency of the organs of Individuality and Eventuality. To this dissimilarity of taste is in some respect to be attributed Goethe's early repudiation of the authoritative wisdom of Voltaire. For he says in his autobiography—"But when I learned that to weaken the tradition of a deluge he had denied all petrified shells, and only admitted them as *lusus naturæ*, he entirely lost my confidence, for my own eyes had, on the Baschberg, plainly enough shewn me that I stood on the bottom of an old dried up sea, among the *exuvie* of its original inhabitants."

And should we strive to divine why Kant, the great expounder of transcendental metaphysics, seemed to ignore the very existence of anything external to the mind, where shall a clue be found to lead us through a labyrinth so intricate? Where, but in the positive science which affords its studious followers unerring means of finding out the "seats and domiciles which the several faculties of the mind do take and occupy in the organs of the body." And here it places before us the fact that these two organs, particularly Individuality, are but poorly developed in Kant, while those of Causality and Comparison are excessively prominent and expanded.

Very different from this was the case with Dr. Gall. Like his extraordinary countryman Kant, he was endowed with powerful organs of Causality; but, he possessed also an equally fine development of Individuality and Eventuality. Hence, both of these original thinkers sought with intense ardour to discover the true causes of mental

phenomena. But Gall based his notions on the evidence of things and their unvarying characteristics as these were discernible in the external world in connexion with the operations of the human mind; while Kant founded his system of mental philosophy upon materials that existed chiefly in the inward world of his own profound, but purely speculative genius. And what is the result? Gall has declared that the transcendental metaphysics of Kant went beyond his comprehension, as a practical system of mental philosophy. Gall was not singular in this; for De Quincy, a most enlightened and devoted admirer and follower of Kant, says, that few of those who have given attention to Kant's writings have come to a proper knowledge of his profound and admirable system of mental philosophy.

How different it is with regard to the truly positive philosophy of Gall! Here are no tangled subtilties to be unravelled. All is simple, demonstrable, unchanging; and comprehensible, even by minds of ordinary capacity.

It is interesting to note here that the forehead* of De Quincy himself exhibits much of the Kantian type. And this will account for his warm appreciation of Kant's system of philosophy; whilst the repugnance of Gall is traceable to the superior development of Individuality and Eventuality, which cannot rest satisfied with any general principles that are not founded upon the invariable coincidence of demonstrable facts. And if we turn to Edelinck's fine portrait of Descartes we shall see how prominent these two organs were in the head of that extraordinary genius in physical science, as compared with the same organs in

* See his portrait in the National Portrait Gallery.

the portrait of Gobinet, the pure-minded moralist of the Sorbonne, engraved by the same eminent artist.

In strict accordance with the doctrine of Gall the first of these used his powerfully observant and contemplative faculties to elucidate the laws which govern the movements of the material objects of the universe, whilst the second devoted his talents to the promulgation of rules for the guidance of others in the pursuit of their moral and religious duties. Yet signs of the purely spiritual elements of character are strongly expressed in the elevated head of Descartes; but he was drawn to a craving for a minute and thorough knowledge of external things by the force of his organs of Individuality and Eventuality. The course which he instinctively pursued, in order to accomplish this, led him through the fixed yet intricate paths of mathematics, until he at length found himself, as it were, an habitual sojourner amid the spheres of the planets.

But it may be asked why Gall, in whose head these organs are equally well developed, was not at all disposed to travel in the same line of road in his search for knowledge. The answer to this is clear, succinct, and conclusive. Gall was remarkable for the want of adequate prominence, and consequent inactivity of the organs of Form, Locality, Order, and Number. In Descartes, on the contrary, these organs were of very great size. That of Number is developed to an extraordinary degree. In the organ of Comparison and Causality the advantage was on the side of Gall; and that of Time was, at least, of equal prominence. A salient organ of Order served to render the author of the renowned treatise on Method systematic. The smallness of the same organ in the discoverer of the true source of all and each of the mental faculties rendered him unsystematic; at least, it prevented him

from shewing any tendency to indulge in hasty generalization.

Two very interesting examples of the largeness and comparative smallness of the organs of Eventuality and Individuality are to be met with in the portraits of the famous Dr. William Cullen, and his no less famous antagonist and pupil, in regard to the principles and practice of medicine, Dr. John Brown. In the former they were very salient, as his portraits and the mask, taken after his death, abundantly testify. In the latter, to judge from the print of him, engraved by Blake, they are but of moderate development; and are not at all on a par with his singularly large organs of Causality. In both there are strong indications of a tendency as well as much talent, for reducing their diversified acquirements into a systematic form. Both desired to see the art of medicine based upon broad general principles. But Brown, from inherent inattention to all the particulars, which influenced the judgment of Cullen, was the author of a system of medicine, which taught that all diseases are reducible to two general categories. But experience does not warrant the soundness of this theory. And had Brown been endowed with paramount organs of Individuality and Eventuality his judgment would not have been ruled by such singularly abstract general principles.

In the heads of the most renowned naturalists the organs of Eventuality and Individuality are always found to be very prominent. Such is the case in the cast from nature of the head of the late William Smith of Sunderland, who was called the father of Geological sciences. Between his forehead and Cuvier's there is a marked resemblance. In Brande, Lyell, and Buckland they are strikingly characteristic. They are very salient in the expanded forehead

of Professor Owen, who is unsurpassed in the power as well as the intense love of investigating the minutest particulars connected with the physical structure of natural objects, as they appear in the wide domain of animated nature.

Barristers, not well endowed with Eventuality and Individuality, will not excel in quickly adducing cases in point, with a view to the strengthening of a client's cause; though, in other respects, they may be possessed of superior intellect. In the casts of Abbot, Scarlet, Pollock, Adolphus, Kelly, and Thesiger, these organs are, on the contrary, very characteristic; though, in other respects, the foreheads of those successful men differ considerably in form. In the broad forehead of Lord Lyndhurst they are of striking prominence. And they are peculiarly salient in that hard-working lawyer, Lord Truro. In the bust by Moore of that eminent equity lawyer and most learned judge, Burton, of the Irish bar, Eventuality is finely developed in a forehead of superior size and form. Eminent men of genius are prompted to devote their time and talents to history by the paramount influence of Eventuality. Striking evidence of this truth is to be met with in the heads of Hallam, Mackintosh, Macaulay, Lingard, and Turner.

In the portraits of Gibbon and Robertson, by Sir Joshua Reynolds, the organ of Eventuality is well developed. But its individual saliency is much more perceptible in that of the last-named eminent historian. This is owing, in some measure, to the paramount fulness of the organs of the reflective faculties—Comparison and Causality—in the forehead of the unrivalled author of the "History of the Decline and Fall of the Roman Empire." In Robertson, however, both Individuality and

Eventuality are more strikingly developed. Hence, a phrenologist would be led to infer that he would be prompted by a strong natural bias of his genius to search out with indefatigable industry, and exhibit, in their minutest details, whatever could contribute to establish and to illustrate his subject. But one would expect to find that Gibbon, with ample capacity for the accumulation of the like materials, would be averse to the redundant use of them, and that, in narrating his opinion of the causes of the springs and currents of complicated political and moral events, he would not be prone to make so minute a display of the evidences upon which his opinions were founded as Robertson would be disposed to adopt. It may be instructive to notice here the fine development of the organs of Time and Order in the heads of these remarkable writers, in order to draw attention to such notable instances of the correspondence between the paramount fulness of these parts, and their talents for the lucid arrangement of their materials, as well as the singular perspicuousness of their style of composition. But, though not so disposed to indulge in minuteness of detail, Gibbon, to judge by the cerebral indications manifested in these portraits, should be capable of giving eloquent expression to his views in a strain more comprehensive, more speculative, more lofty and ornate than Robertson. The genius of Gibbon would take more delight in the elucidation of the general political and moral causes of transactions than in the enunciation of the particular incidents of which they were constituted. In the opinion of De Quincey, his history is faulty in that respect. He says, in his account of the Cæsars, "that Gibbon brings forward only such facts as allow of a scenical treatment, and seems everywhere, by the

glancing style of his allusions, to presuppose an acquaintance the most familiar with that very history which he undertakes to deliver."

Without venturing an opinion as to the soundness of this criticism it is worthy of remark that it accords exactly with what would be inferred by a phrenologist from a careful inspection of Gibbon's portrait, by Reynolds. And is it not true that, during the long period of eight years, which was spent by the great historian as a member of the House of Commons, he displayed but little aptitude or predilection for engaging practically in the actual conduct of eventful political transactions?

But it may well be asked how it came to pass that Gibbon chose for the display of his marvellous talents the very subject which consists essentially of materials that address themselves to the organs of Eventuality and Individuality? The answer to this question is clear and satisfactory.

In the high expanded forehead of Gibbon the purely reflective organs of Comparison and Causality, with those of Time and Order, which last are essential to the rapid and harmonious association of ideas, prevent a relatively but not an actually moderate-sized organ of Eventuality from being prominent or even strikingly characteristic, owing to their own superior development. And though this organ were not instinctively active, in an isolated sense, it was not wanting in development enough to enjoy and retain the vast stores of historical incidents which were conveyed to it through the channels of ancient and mediæval literature by one of the finest organs of Language that ever man was endowed with. The paramount force of this organ caused his love of learning to

amount to the ardour of a commanding instinct, and its assiduousness was insured and augmented by the methodising and harmonising influence of his superior organs of Time and Order, Causality and Comparison.

It is not in the nature of things that this passion for literature could fail to enhance the native energy of Eventuality, since it is to it as the central *depôt* of knowledge, that a consciousness of the attainments of the other faculties of the mind is to be traced. And there being no characteristic display in the portrait of Gibbon of those organs from the prominent development of which issues a genius for the exact physical sciences, his philosophic mind would prompt him instinctively to pursue through all its windings the changeful course of human affairs, as it is traced on the bright page of authentic history. To feel assured of this speciality of development it is only necessary to compare Reynolds' portrait of Gibbon with those of Sir Isaac Newton, by Thornhill and Kneller. In Gibbon, Eventuality was far more characteristic than Individuality. In the immensely developed brow of Newton the reverse was the case. The genius of physics found her brightest seat in the appropriately organised forehead of the latter. That of the former was more adapted to become the shrine of the genius of metaphysics. He should be intellectually more speculative also and more sceptical. But the native strength of Eventuality, though not predominant, was yet fully adequate to imbue his mind with a strong bias to search for wisdom and philosophy in regard to the springs, the courses, and the issues of human conduct in the notable facts of history, than in the conjectural theories which form the groundwork of metaphysics.

It is interesting to observe, and instructive also in

regard to the evidences of Phrenology, that the fine foreheads of Edmund Burke and Edward Gibbon bore a strong resemblance to one another, only that Individuality was more developed in Burke. And a strong characteristic likeness can be traced between those of Charles James Fox and Robertson. But in Fox, Causality was more prominent.

Under the head of Individuality many great names have been adduced as evidences of the existence and local position of that organ, which are equally adapted to corroborate all that has been affirmed respecting Eventuality. Nevertheless, it may not be unimpressive to state here that this organ is much more salient in the mask of Dean Swift than in that of Dr. Johnson, in the cast of Cobbett than in that of Godwin. In the casts of Richard Brinsley Sheridan and Napoleon I., this organ is very characteristic. But in Sheridan it was relatively more marked, owing to the greater size of the reflective organs, especially Causality, in the forehead of the great Napoleon. And the rare capacity of this wonderful man for the rapid and clear comprehension of multifarious and complicated events was strictly accordant with the superior development of the organs of Eventuality and Individuality. As to Sheridan, the ease and brilliancy with which he could illustrate by means of particular incidents whatever subject he might choose to adorn with eloquence, was triumphantly evinced in his famous speech on the Begum charge against Warren Hastings.

The casts from nature of William Godwin and William Cobbett afford marked evidence of the correctness of the view taken in regard to the function of this organ. They both possessed powerful heads, but these were very unlike in their general contour. This disparity was strikingly

apparent in the predominant relative development of the organ of Eventuality in the forehead of Cobbett, and the absence of saliency as to the same organ in Godwin. And while the reflective organs—Comparison and Causality—were singularly large in the author of “Caleb Williams” and “Political Justice,” Causality was but moderate in the head of Cobbett.

Now, Godwin was characteristically speculative. He was too much inclined to rest on generalities. Nor was he sufficiently prone to make “an acquaintance with things.” He loved to dwell upon the causes of things rather than upon the things themselves. Cobbett’s genius, on the contrary, was eminently statistical and actual. And his industry in pursuit of a practical knowledge of things and of passing events was great in the extreme. Nor was he satisfied with learning things through the experience of others. He resolved to test them personally. Indeed, so versatile were the lines of his active duties that, like Cato of old, he gave practical attention to many things; and like him, too, he was capable of displaying rare intellectual capacity in every one of them. But he did not attempt to indulge in profound metaphysical disquisitions respecting the motives or the true causes of human conduct, which was so germane to the fine contemplative intellect of Godwin. Neither did he ever seem to feel the charming glow of enthusiasm for whatever is refined and beautiful, which shed a radiance around the philosophic imaginings of Godwin, because his head was poorly furnished with the organ of Ideality, which forms a conspicuous feature in the head of the author of “St. Leon.”

The forehead of Edmund Burke, to judge from a cast of his face, taken in the prime of life by Hickie, the

sculptor, presents a combination of the leading intellectual characteristics of both of them, and that in an eminent measure. Hence he would be less prone to dwell on mere particularities in his political disquisitions than Cobbett, though he never lost sight of them; less given to revel in speculative generalities than Godwin, he was thus rendered more capable of soaring, in safety, to the highest pitch of comprehensive political speculation than the latter profound and original thinker, because he never was in the habit of overlooking such particulars as were likely to weaken the tenour of his argument.

“Though his venturous spirit sometimes loved to urge
The labouring theme to reason’s utmost verge,
Kindling and mounting from the enraptured sight.”

It was in the organs of Causality and Ideality that Cobbett fell far short of both of them.

Both Eventuality and Individuality are particularly conspicuous in the head of Thomas Paine, who, though bred a staymaker, and subsequently a sailor-boy on board a privateer, nevertheless, distinguished himself greatly as a political writer and an active promoter of revolutionary doctrines: while the same organs are not at all characteristic features in the portrait of Robert Bloomfield, the shoemaker poet, who was instinctively devoted to a life of contemplation and poetical seclusion, because the organs of the reflective faculties and those of the senses of poetic beauty and spirituality were predominant in him. Such was not the case with Paine, though the general development of his forehead was equable and good. But it may be interesting and instructive to state that the organ of the sense of the supernatural was remarkably small in the head of Thomas Paine.

In the mask of Richard Robert Jones, the poor Welsh sawyer, and the self-taught master of many languages, Eventuality is but poorly developed, especially when it is compared with that of language. And an unconquerable inattention to passing events was a leading feature of his character, as has been elsewhere more particularly noticed. In the fine mezzotint print of Jedediah Buxton, the wonderful arithmetical calculator, this organ is also very moderately developed. And the interesting anecdote, already told, shews how singularly inactive the faculty was in this illiterate peasant.

What a marked contrast is presented, in regard to the organs of Eventuality and Individuality, between the heads of Jones and Buxton and that of John Phelps, of whom there exists a fine whole-length portrait in mezzotint. This man, up to the age of twenty-four, was but a humble stable boy in the service of Chief Justice Parker, afterwards Earl of Macclesfield. But, having by his merit, it is said, been raised to the upper employments in that family, he was, at last, for his uncommon genius promoted to be observer in their observatory at Sherburn Castle.

Now, although this stable boy was endowed with a good development of the organs of Language and Number, he did not, like Jones and Buxton, give his attention, abstractedly and entirely, either to languages or arithmetical computation to the neglect of external incidents; but was always disposed to apply himself to the faithful administration of matters appertaining to his master's household. And in this he seems to have been eminently successful.

So intense, however, was his desire to gain a knowledge of external nature—of objects and phenomena especially in regard to the “heavenly bodies”—that he could spare to devote to the study of astronomy sufficient time to

qualify him to fill the scientific position assigned to him by his distinguished master.

The evidence, both negative and affirmative, afforded by these remarkable men is the more satisfactory because the low sphere in which they were born leaves no ground for attributing to education, to family connection, or to self-interest, any share in giving to each the peculiar intellectual bias which distinguished him.

Eventuality is flat in new-born children. But the rapid increase of development in this part of the forehead is observable at a very early period. This increase is owing to the active exercise which devolves upon this organ through the incessant curiosity of infants, whose attention is awakened by everything that comes before them.

It has been shewn, already, that every organ, when it is a dominant one, must be and is productive of attention. But that the sphere of its attention is confined within the field which it instinctively traverses. It is thus with Language, Tune, or Number. The scope of Eventuality as to attention is more comprehensive and versatile. For, as the desire of gaining knowledge, in the general acceptance of the term, and also of communicating it, is certainly an attribute of this faculty, it follows that its own attention is directed to the exciting of the attention of the other intellectual powers. In this, of course, it would be successful in proportion to the native power of each primitive faculty, and no farther.

Yet it would be an error to suppose that this faculty, even when it is very active, is capable of fixing the attention for an adequate space of time upon phenomena, if the sense of the duration of time and the sense of order be remarkably weak.

In such a case there would be a strong inclination to gain miscellaneous knowledge; but only in a desultory manner. Knowledge like this would be wanting in the due connection of parts. Its objects are various, but they are detached from one another and broken. There is a want of intellectual harmony in the association of the ideas of children who are thus organized. They are "bird-witted," as Bacon has expressively said. Still they possess the faculty of attention. But it is shortlived and versatile. It is attention by "fits and starts."

It is not to be forgotten that this mental peculiarity is due also, in a considerable degree, to an inadequate development of Causality.

It is hoped that the attempt now made to draw a true line of distinction between the functions of Individuality and Eventuality will be deemed a successful one; and that the sphere of action of the latter will not be looked upon as being unduly expanded, from having assigned to it the power of taking cognizance of the special operations of all the other faculties both moral and intellectual; as well as of the acts or states of being of the organs that are purely corporeal in their functions.

To it, therefore, is to be referred the conception of the existence of pleasure and pain, whether these be of the mind or of the body. And here, consequently, is to be found the true cerebral seat of Consciousness. Here alone is entertained a conception of the existence of the entity Self. It is the place where all the varied attributes and accidents of Self meet in concentrated unity.

Individuality, on the contrary, does not take cognizance of the functions of the other organs. It perceives objects in their abstract unity, but it can form no conception of the existence of their attributes. It supplies Eventuality

with things in their individual state and in detail. But it is the other perceptive organs which supply that centre of perception with the means of acquiring a knowledge of the essential and diverse qualities of things.

Men with but a moderate endowment of these two organs, however powerfully intellectual they may otherwise be, will never become eminent as authorities in statistical details.

The organ of Eventuality lies exactly in the centre of the forehead. It has the reflective organs above it, those of Individuality and Locality beneath it, and those of Time on each side of it.

SENSE OF TIME.

It seems obvious enough that there exists in the mind of man a special elementary faculty which enables him to perceive the existence of Time as well as the measure of its duration, so far as it regards the relative length or shortness of it, without its being at the same time endowed with the power of marking epochs. To comprehend these it requires the co-operation of the faculty which perceives events. And, should a series of events be recalled to the mind, it is through the faculty of Time that man is rendered capable of feeling whether the time of their happening has long since passed away, or is comprised in a shorter interval. This kind of perception may exist without there being a distinct notion of the order of their succession or of their dates, for in this case the faculties of Order and Number are its essential auxiliaries.

The marked distinction between the faculty of Eventuality and that of Time is well seen in young children. Their curiosity is very great and they retain a strong memory of things, but they have scarcely any notion of duration. All time appears as yesterday to them. This would at least seem to be the case, for they call all past time yesterday. When a little older, a child will say to one he likes, "Oh, it is a long time since I saw you." But as yet he has no conception of the number of weeks

or days that may have elapsed since the former visit. Can anything more clearly shew than this, the successive growth of the elementary faculties? And how interesting it is to see that the beneficent Creator has bestowed precedence in action upon the faculties which minister to the wants of childhood as they arise in their natural succession. And as the knowledge of things, whether moral or intellectual, is that which should first be learned, so it is found that the organ which imbues the mind with the love of knowing everything that passes is always the first to shew a rapid increase of development.

Time past, time present, and time future, then, are mental conceptions, which certainly can be felt without reference to any incidents connected with either of these states, or to the number and order of succession of such incidents, or the place of their occurrence.

If, then, there is a special elementary faculty for perceiving time and its duration, there must be a proper organ for its manifestation. And long tried experience is sure to inspire a thorough conviction that that organ lies on each side of Eventuality, and that it is, also, in immediate contact with the organs of Order, Number, Causality, and Tune. The immediate proximity of Time and Tune is important, for, though the melodious combination of musical sounds is the specific function of the organ of Tune, or Melody, yet it cannot preserve these melodious tones in true rhythmical harmony without bars or divisions of time. To do this, a keen appreciation of the required duration of musical sounds is necessary, and it is to the part of the forehead now under consideration that this function belongs.

But howsoever great the value of a good organ of Time is to the production of harmony in musical compositions,

there are other conditions wherein its co-operation is of far greater importance to mankind. According to an invariable law, every organ, when it is strong, desires to be engaged in the active performance of its own function, and that of Time, like the rest, is affected in the same manner. But how does it act? It, instinctively, when strong, prompts its possessor to set a high value upon time, and as "Time flies fast," and as he cannot arrest the progress of what he so highly appreciates, he strives to make the best use he can of it. Hence a keen habitual sense of the value of time is naturally a very influential, nay, indispensable ingredient in the composition of an industrious character. And as perseverance is a condition of industry, it also must be enhanced in power by the presence of a large organ of Time.

To help to keep up a spirit of persevering industry, then, is one of the valuable attributes of this faculty. But there is yet another point in which, when dominant, it exercises an important influence upon the efforts of the other intellectual powers. For, if the harmonious intervals of musical sounds are dependent on a correct perception of time, it is not irrational to suppose that sustained harmony in the arrangement of our thoughts and words will be proportioned to the relative size of the organ of Time, especially when it is acting in unison with the sense of Order.

If this be the case (and it is one that is sustained by a vast amount of evidence) there can be no kind of doubt that, if there be two persons whose foreheads strongly resemble each other, except in the region of the organ of Time, which is ill-developed in one and prominent in the other, there can be no doubt that the latter will have a far greater facility in arranging his ideas and the

words that express them than the former. The result of this is exceedingly important. And what is that result? It is nothing less than intellectual assiduity spontaneously adopted and practised, even without the stimulus of necessity or ambition, although, of course, its native activity is promoted by such powerful incentives. But what is the immediate cause of the want of assiduousness in the other? It is the feeling of irksomeness which is the natural attendant upon every serious sustained effort of the intellect when a vivid consciousness of the difficulty to complete the effort is felt. It is not in the nature of man, or of any other living thing, assiduously to pursue that which is distasteful to it. And no one can love to approach that which is always surrounded by difficulties.

Intellectual assiduity and perseverance, then, are incompatible with incapacity to arrange and harmoniously associate the ideas. And, as this power of intellectual combination is greatly enhanced by the ample development of the organ of Time, the importance of an early judicious cultivation of it cannot be overrated.

Did schoolmasters but know what I am now endeavouring to explain, they would not fall into the fatal, and often cruel error of attributing to intentional delinquency the idleness which is the unhappy offspring of ill-balanced intellectual organs, as well as ill-developed ones.

Even phrenologists of eminence seem not to be aware of the scope and influence of the organ of Time, when it is acting in harmony with the other intellectual organs.

In 1841, a marked instance of this occurred in my presence at Deville's Museum, which he opened daily to the members of the Phrenological Association, who were at that time holding their meetings at the Society of Arts. On that occasion, Deville was being somewhat

discourteously treated by two gentlemen who had published some occasional essays on Phrenology. One of them was a clever public lecturer on the subject. They even went so far as to express a doubt of the truth of something he had asserted, because they deemed it an impossibility. Not being in the group of persons that he was speaking to, I did not hear, at first, the subject of their doubts. But Deville feeling offended at the manner in which he was treated, tested their skill by asking them to point out the intellectual qualities of a boy, eleven years of age, whose cast he handed to them. They observed that the organs of Individuality, Eventuality, and Comparison were large, and that Causality was by no means deficient, and concluded by pronouncing him to be a very clever boy. Upon this Deville coolly said, "You are quite in error, for it happens that the father of this boy permitted me to take a cast of his child's head, from my having told him that it would be very difficult to impart instruction to him, and that it would be a hard task to get him to spell a simple word of two syllables. And such he acknowledged to be the fact." I then distinctly heard, from where I was standing apart, that these well known phrenologists could not understand how this was done, and, therefore, could hardly believe that it was done. Deville immediately said that there was a gentleman then in the gallery, who had predicated the same thing. They instantly turned round and looked towards me, because I was known to be intimately acquainted with Deville and his fine collection, and then asked him what were the data on which his opinion was formed. "I shan't tell you," was the sharp, sudden reply of the truthful man, who felt stung by the doubts openly flung upon his veracity.

Now, though the organs of Individuality, Eventuality, and Comparison were well developed in this cast, there was a singular deficiency of the organ of Time. And, as it is greatly owing to the activity of this organ that the ideas are harmoniously and rapidly associated, there can be no hesitation in thinking that the harmonious association of the words composing those ideas, must be also, in some measure, the result of the action of the same faculty. And may not the range of its usefulness be extended to the due combination of syllables, and even of letters, which constitute correct spelling.

To assist in producing harmonious action among the faculties, then, is a most important attribute of this elementary power. The absence, or rather the great weakness, of it, therefore, in this boy precluded him from perceiving the harmony existing between certain verbal sounds and the letters of which they are composed. Undoubtedly, the faculties of Order, Form, and Locality contribute to facility in spelling, and they were not salient features of this boy's forehead. But these were not active enough in Dr. Gall either, and there is no recorded evidence of his having been at all deficient in talent for spelling. In him, however, the organ of Time was very large, and how admirably it harmonised with his finely developed organs of the highest faculties of the intellect is fully shewn in his great work on the brain and its functions.

After a careful investigation of facts, on a very large scale, as they presented themselves at every period of life, I am bound to feel convinced that this attempt to enlarge the sphere of action of the sense of Time has immutable facts to rest upon. Would it not be preposterous to suppose that it is merely an appendage to the sense of

Tune, when its organ is found to be very large in some cases where that of Tune is either small or moderately developed? Gall's own head affords marked evidence of this. Another notable instance is to be seen in the cast of Napoleon, taken after his decease. And in Dr. Johnson the organ of Time was large and that of Melody small. Time was remarkably salient in Daniel O'Connell and in Edmund Burke. Yet, none of these great men were remarkable for superior sensitiveness in regard to the charms of music. On the other hand, how distinguished are they in the world's history for the faculty of rapidly combining and arranging their thoughts, and of expressing them harmoniously as well as of acting upon them assiduously. An ardent love of becoming distinguished, or the love of gain, will naturally prompt one to make an industrious use of his intellectual faculties, although he be but scantily endowed with Time and Order. He does this, however, with a feeling of irksomeness, which could only be overcome, but not removed, by such powerful incentives. It is felt as a task he would willingly forego, and not as a labour of love. And why is this so? Because the difficulty of arranging the thoughts causes painful hesitation in applying them steadily to any important pursuit. Procrastinating habits are engendered; and faculties are thus comparatively useless, which, with Time as their good ally, would lead their possessor to fortune.

The characteristic cerebral development of some aboriginal races is strikingly illustrative of the truth of the view here taken of the scope and tendency of the organ of Time. And in none is this more strongly exemplified than in the heads and skulls of native Africans of the Negro race. In them the frontal portion of the

head is not only smaller, both absolutely and relatively, than the same part in the European, but it is also far less symmetrical; and this want of symmetry is particularly apparent in the scanty development of the organ of Time. From the Bushman, diminutive both in body and mind, to the brave Caffre, so superior to him in every respect, this deficiency is prevalent. But the want is far more marked in the Bushman than in the Caffre, or indeed in any other negro tribe whose skulls have fallen under my notice. And I have compared many skulls of Africans, belonging to various tribes of negroes.

It is to this great relative deficiency of the external parts of the forehead that their indolence and comparative mental incapacity is to be attributed; for they are well enough endowed with the organs which perceive and remember external objects and events. But they cannot arrange and combine their ideas. Neither can they compose and harmonize musical tones, though they are often capable of feeling the charm of melody. They often possess a well developed organ of Language, of words, yet they cannot be taught, even by much experience, to arrange them into harmonious sentences. To give a particular instance, I may mention the case of a domestic servant from Barbadoes, whose mother was a negress. This young woman was an acute observer of what was happening around her; she possessed a good memory both of things and words. She was fluent enough in talking, but was greatly deficient in the proper collocation of her words. Being in attendance on an only child she was a great favourite, and efforts were made to teach her to read; but it was with the greatest difficulty she could be brought to spell the shortest and simplest words. This girl's forehead resembled that of the boy, to whom I have already

alluded ; but in respect to prominence of the forehead it was much superior.

But it may be said that many negroes have manifested superior intellectual power. No doubt they have. Some as preachers of the Gospel, some even as governors of provinces. Of these, two at least have acquired great names. But were these wanting in the part of the forehead I am now discussing? It would be an anomaly in nature's invariable laws if such were the case. For if we look to the busts and portraits and casts from nature and skulls of the men who have become great among their fellows, we shall be sure to find that the part of the forehead of which the organ of Time occupies the centre was largely developed. Look, for instance, to Washington and Franklin, to Webster, to Clay, to Buchanan, and to Jackson in America, and though differing much in their intellectual characteristics it will be found that they all possessed in an eminent degree the qualities which I am convinced do reside in the portion of the anterior lobe of the brain which forms its external parts, and which parts were well developed in all of them. Henry the Fourth of France and his brave and wise minister Sully, Charles the Fifth and William the First of Orange, Pope Julius the Second and Frederick of Prussia, all these through their authentic portraits, afford notable evidence of the coincidence between the development of the organ in question, and the functions which I aver with the confidence of undeviating experience truly to belong to it.

Were it not a tedious procedure the names of the greatest men of our country and of foreign nations, with the forms of whose foreheads I am familiarly acquainted, could be adduced here as conclusive evidence of the truth of what has just been averred.

But as it will be necessary to revert to these points in the course of the discussion on the organ of Language, their names shall be reserved for that occasion.

I trust that it will have appeared evident that the perception of duration or the sense of Time is an elementary faculty of the mind, and that its function is not confined to the production of harmonious intervals in music, but that it exercises a far more extensive influence on the operations of the intellectual faculties. And I also hope that a sufficient amount of evidence has been adduced to shew that the organ of that important elementary auxiliary faculty is seated where its energies are specially wanted.

When Time and Order are large the forehead generally, but not always, appears square. Not always, because when Eventuality and Individuality are very large there may be a good development of those organs, and yet the forehead be wanting in squareness. Such was the case in Curran, Horne Tooke, Richard Brinsley Sheridan, Reverend Arthur O'Leary, the celebrated Irish statesman, Henry Flood, in the poet Moore, and in many other distinguished men who could be named were it necessary. But the experienced eye can at once detect when there is a deficiency in this organ.

A powerful organ of Time, then, ought to be considered an essential promoter of the well-balanced activity, effectiveness, and continuous industry of the intellectual faculties. For, without doubt, there exists evidence, the most abundant, that all those men who are universally deemed the intellectual ornaments of their respective countries, were, in every instance, without regard to peculiarities of genius, endowed with a fine development of the part of the forehead which lies between Eventuality and Tune: while deficiency

of talent, or rather the want of power of symmetrizing it and of assiduously using it, even when it exists in no stinted measure, may always be predicated, when there appears a marked relative deficiency of the same part. And the incapacity is augmented by the smallness of the organ of Order.

But it would be a mistake to suppose that superior talent always shews itself where the organs of Time and Order are large. For these organs are chiefly for the purpose of arranging harmoniously the fruits of the action of those organs which acquire a knowledge of objects and events—of phenomena—as they exist in the universe around us, and in the workings of our own thoughts and feelings. Thus does the organ of Time materially enhance the efficiency of the observing and reflective faculties, and even serves to augment their inherent measure of power, for assiduous exercise of the intellectual faculties certainly promotes the growth of their organs, even in the adult; and as increased size is always accompanied by additional power, so that which serves to cause that increase of size, must also tend to augment the power.

Even mediocrity of intellect is, with such an auxiliary, capable of piloting its possessor more prosperously through the changeful affairs of life than can superior powers of observation, imagination, and reflection, in the absence of an adequate development of the organ which instinctively prompts us to take time by the forelock.

Here it will be well to note that the organ of Time is inadequately developed in the great majority of those children who have fallen early into vicious and criminal courses through bad example, but not always so much from inherent depravity as from an arrant proclivity to shirk intellectual industry.

TUNE, OR MELODY.

“SUCH a person has a good ear,” is a form of expression very commonly used to designate anyone who manifests a keen perception of melodious combinations of sounds. This is only one of the many mistakes that have been committed by those who have deemed the external senses to be the appreciating recipients of outward things. Whereas they are only the conductors of impressions to those organs in the brain which are alone competent to perceive the distinctive qualities of such things. The fact that some eminent composers of music were deaf, is in itself a thorough refutation of such an opinion. Indeed, one of the greatest of all musical composers—Beethoven, was quite deaf; yet he continued to produce from the salient spring of his own instinctive musical imagination some of the most soul-inspiring and deeply affecting melody that has ever been composed. One of the most extraordinary instances of precocious musical genius was exhibited by Handel in his early childhood; and perseveringly he strove to follow this instinctive bias of his mind, notwithstanding the direct prohibition of his father, who wished to make a lawyer of him. He used to creep up to the garret, when the family were in bed, and there play for some time upon a clavi-chord. At seven years of age he used to get into the organ loft, after church time, and play upon the organ in a style which so surprised the Duke of Saxe-Weissenfels that

his highness prevailed upon the child's father to have him instructed in music. At nine years of age he composed the church service for voices and instruments. Was not this a marvellous instance of the force of an innate faculty becoming spontaneously active and asserting its supremacy in the face of the most powerful opposition?

The "Infant Lyra" evinced symptoms of delight on hearing sweet music when she was only six months old, and manifested displeasure at some tones. At three years she astonished every one who heard her by the performance of her own extemporaneous compositions on the harp. The face of this child, as painted by Taylor, and engraved by Lewis, has a peculiarly seraphic expression of countenance, and the outer portion of the forehead, where the organs of Melody and Time are seated, is extraordinarily large.

The organ of Tune lies immediately above that of Order, at the external angle of the forehead. When very large it forms a marked projection at that part, but should Order be also large, the organ of Tune seems less distinctly protuberant. It is to Gall we owe the discovery of the organ of Tune. One day his attention was called to a child named Bianchi, who was only five years old, and he was asked what was the most remarkable talent of this child. He saw nothing in the form of her forehead which indicated extraordinary memory, and he had no idea, at that time, that talent for music could be discovered by the form of the head. He did not then know the different kinds of memory. It happened that this little girl had so strong a memory of music that she could repeat with exactness whole concertos, after hearing them twice played, but her memory in every other respect, was not at all remarkable. His friends, on this occasion,

thought that his ideas with respect to the external signs of memory were false. But to the sagacious mind of Gall it afforded the first clue which enabled him to unravel the tangled skein that led him to the discovery of the natural law which teaches that there are different kinds of memory and distinct organs in the brain for their manifestation. Thenceforth, he took every means of finding out the distinctive peculiarity in the form of the heads of men remarkable for musical talent and genius. He took casts of them. He compared them over and over again, and finding them to differ in their general form he was puzzled, but after long and careful examination he found a marked protuberance in all of them at the external angle of the forehead, which extended to about an inch and a half above the angle of the eyebrow. Subsequent inquirers have ascertained beyond any doubt that the seat of the organ has been rightly pointed out by Gall.

For instance, let the mask of Malibran, taken from nature, be compared with that of Anne Omorod, a pupil in the blind school of Liverpool, and who is there that must not be instantly struck with surprise at the contrast they present—the one rich in form, full, protuberant, where the organ of Tune lies; the other poor, flat, nay, even sunken at the same part. The musical genius of Malibran often contributed to infuse for a time, at least, a joyous and buoyant sympathy through the living frames even of some who were “weary and heavy-laden.” The poor blind girl, on the contrary, could not appreciate a note of music. The magnificent pealing of the organ alarmed her, until she was removed from that which rendered her unhappy. This child was not at all dull or disinclined to learn other things, as the rest of her

forehead phrenologically indicates. Or let the fine mask from nature of Weber be placed side by side with that of the first Napoleon, and the most unpractised eye cannot but detect the great absolute and relative development of the organ of the sense of the melodious relations of tones in Weber, and the comparative smallness of the same organ in the far more ample forehead of the great general and statesman. That Weber, who died young, was a musical genius of the highest order is universally acknowledged. Even Beethoven himself, while characterising the musical qualities of the greatest masters of the divine art, not only includes Weber in his category, but extols him as a musical genius of the first class.

Napoleon, according to Bourrienne, had very little capacity for the appreciation of melody. Can there be a stronger instance than this given to prove that a man of very great and varied genius may exist, who will yet be totally incapable of displaying the humblest capacity in some special intellectual pursuit.

In the mask of Samuel Johnson, taken by order of his friend Sir Joshua Reynolds, the organ of Music is very poorly developed. And he was in a great measure insensible to the charms of music. Compare his mask with the cast of Mendelssohn and see what a disparity. In Mendelssohn the organ stands out in bold relief. How different also it appears in the capacious forehead of Gall. There the organ of Tune is seen to be very moderate in its development, and Gall, according to his biographer, Dr. Fossati, had no ear for music.

Sir Walter Scott and Thomas Moore. Both these great poets had, according to the evidence of their casts, taken from nature, high and well-formed foreheads; but each was distinguished by well-marked characteristics; amongst

which the contrast between their organs of Tune was the most conspicuous.

In Scott the organ is very moderately developed indeed, and the musical faculty was weak in him. His ear for melody is said to have been not particularly sensitive. Moore's mask, on the contrary, displays a great development of the organ; and his genius for music was of rather a high order. His sensitiveness to true melody and harmony is conspicuous in his diversified style of poetical composition, whether it be humorous, descriptive, or lyrical. Indeed, he seemed to feel that the divine spirit of music possessed him by a more potent spell than even poetry itself, when he thus addressed the Harp—

“If the pulse of the patriot, soldier, or lover,
Revive at its lay, 'tis thy glory alone,
I was just as the wind passing heedlessly over,
And all the wild sweetness I waked was thine own.”

His appreciation of the charms of music is still more strongly expressed in the following harmonious verse—

“Music, oh! how faint how weak
Language fades before thy spell!
Why should feeling ever speak,
When thou can'st tell its tale so well.
Friendship's balmy words may feign,
Love's are ev'n more false than they;
Oh! 'tis only music's strain
Can sweetly soothe and not betray.”

But it may be said that Dr. Johnson wrote verses that were correctly rhythmical with great facility, notwithstanding his deficiency in the power of keenly appreciating the delicate beauties of melody. And whence did he derive this power, if not from the faculty of Time? From a keen perception of the duration of time

and a capacity for measuring it. And this was owing to a fine development of the organ of Time ; assisted by a strong power of arrangement. But though Johnson's poetical compositions were rhythmically correct it cannot be said that they were not wanting in the exquisite melodiousness which characterizes the poetry of Moore and Coleridge. To illustrate this I will, as a contrast to Coleridge's *Genevieve*, quote a few lines on *Death* from Johnson's *Irene*.

“ Reflect that life and death, affecting sounds,
Are only varied modes of endless being :
Reflect that life, like every other blessing,
Derives its value from its use alone :
Not for itself, but for a nobler end,
The eternal gave it, and that end is virtue.
When inconsistent with a greater good,
Reason commands to cast the less away ;
Thus life, with loss of wealth, is well preserved,
And virtue cheaply saved with loss of life.”

These lines are certainly rhythmical but they have little melody in their composition. Pope possessed extraordinary capacity for expressing his thoughts in verse that was at once perspicuous, pointed, eloquent, and harmonious. And yet he is said not to have been gifted with high musical susceptibility. Neither was he endowed with a large organ of Melody. Yet, such as it was, it harmonized admirably with his finely developed and symmetrical organs of Order and Time. Indeed, in the scull of Pope all the organs of the intellectual faculties were exquisitely balanced and harmoniously blended. But, notwithstanding the finish and elegance of his heroic stanza, he has not evinced that variety of musical cadence which a refined perception of melody alone is calculated to create, and which is so

striking a characteristic of Moore's genius. In the mask of Coleridge the organ of Melody, as well as those of Order and Time, is large; and the tuneful beauty of versification is the offspring of a fine perception of harmony. As, for instance, in his simple, charming address to Genevieve:—

“Maid of my love, sweet Genevieve,
In beauty's light you glide along;
Your eye is like the star of eve,
And sweet your voice as seraph's song.
Yet not your heavenly beauty gives
This heart with passion soft to glow;
Within your soul a voice there lives!
It bids you hear the tale of woe,
When sinking low the sufferer wan
Beholds no hand outstretched to save,
Fair as the bosom of the swan
That rises graceful o'er the wave,
I have seen your breast with pity heave,
And therefore love I you, sweet Genevieve.”

The organ of Melody is but moderately developed in the mask of Dean Swift; and his versification, fluent, smooth, unconstrained, and rhythmical, as it undoubtedly is, is yet comparatively devoid of the melodious cadences which, in so remarkable a degree, characterize the writings of Moore and Coleridge. But Moore possessed a genius for music, and its charms filled the heart of Coleridge with glowing sensibility: while the simplest forms of music had no affective influence upon the feelings of Swift.

But the organs of Time and Order were very large in this great genius, and hence the measure and easy flowing rhythm of his verses.

But, if the organ of Tune is larger in Moore than in Scott, and in Coleridge than in Byron, it is yet larger in Weber than in Moore, and larger in Mozart, Handel,

Beethoven, Mendelssohn, Meyerbeer, Rossini, than it is in the masks of either Moore or Coleridge. Yet the organ is very large in Moore; and is more characteristic of him than of Coleridge. There is little doubt that Moore might have become a distinguished musical composer, had not the bias of his general faculties drawn him to the cultivation of poetry. For the organ of Language is a dominant feature of his head.

There is now before me a small print of Beethoven, published at Leipsic in 1801. In it the development of the organ of Tune is immensely protuberant. And it runs up to a large organ of Ideality, with which it is harmoniously blended. His forehead, too, is finely formed and large, and his head seems to be abundantly endowed with the organs of the affections.

How well and feelingly did the poet Leigh Hunt, who had a soul for music, describe the effect of Beethoven's charming strains :—

“And strange was the shout, when it wept, hearing thee,
Thou soul full of grace as of grief, my heart-cloven,
My poor, my most rich, my all-feeling Beethoven.”

And from the delight felt on witnessing the exquisite performance of his affecting opera, “Fidelio,” with Shroeder Devrient as the heroine, I am induced to notice the development of the organ of Tune in the cast of that distinguished actress and singer. It is very protuberant.

Here it may reasonably be asked why a great endowment of the organ of Tune is not always accompanied by genius for the composition of enchanting music? For this reason, that harmonious combinations of melodious tones are merely the channels which the natural instinct of some individuals force them to use for the transmission of noble, affecting, soul-inspiring, imaginings, and that

many lovers of music are incapable of such imaginings. In the same way another highly gifted person will, by the overruling bent of a predominant organ of Language, make choice of words as the vehicle for the conveyance of his thoughts and feelings to the delight and edification of others. And a third, in whom neither Tune nor Language predominates, but who is singularly endowed with a fine perception of Form and physical proportion as well as manual dexterity and the imitative faculty, such a one will seek to transfuse his high thoughts and feelings into kindred souls, not in "words that burn" or tones that enrapture, but in the almost breathing marble or individual canvas. It is to this instinctive diversity of animated minds we owe Mozart, Handel, Beethoven in music; Homer, Dante, Shakespeare in poetry, Leonardo, Michael Angelo, Raphael, in painting and sculpture; Bramante, De Vinci, Wren, Inigo Jones in architecture. But there must exist the fountain from which spring observant and discriminating powers, profound thought, elevated and glowing sentiments, and warm, unselfish, sympathising affections, or else the channels of communication will be dry and barren.

It may be well to state that the spirit of music sometimes out of compassion, as it were, takes her seat in the barren soul of idiocy. Some years ago there was at the asylum at Highgate an idiot boy about eleven years of age, who could whistle with much sweetness any tune which he might have occasionally heard. In him the organ of melody was large though the rest of the forehead was idiotic. Even birds, which are so low in the scale of sagacity, are some of them richly endowed with a passion for music. And that this passion is instinctive and does not depend for its existence on any external

stimulus, either of education or example, is clearly proved by the fact that in a nest of nightingales or thrushes, the male birds only are found to sing, though the female sometimes makes a feeble attempt to do so. Nor is it possible in any case to bring the crow or jackdaw to sing like the thrush or blackbird, or the sparrow to warble like the skylark. Will it be asserted that the difference of talent lies in the organs of voice? Certainly the larynx or organ of voice in the nightingale is formed for the production of a greater variety of rich, full, and melodious notes than that of the sparrow, or I believe of any other bird. But the construction of the organs of voice is similar in the male and female nightingale, and in the male and female of every other species of singing bird, and yet it is the male bird only that has the gift of song. There must be something radically different in their physical conformation to account for this. And that this difference consists in a marked fulness of the skull over the orbit of the eye in the male singing bird, and in a comparative deficiency of the same part in the female, although in every other respect the forms of their heads are almost exactly alike, is a fact of which long and careful research into the conformation of the skulls of birds has thoroughly convinced me.

There is no difficulty found in distinguishing the male canary from the female by the fulness of the former over the orbit of the eye, notwithstanding the smallness of the skull. There has never been recorded by the opponents of Phrenology a single instance subversive of this universal law of nature, namely, that tuneful birds are endowed always with a superior development of the part of the brain which lies above the orbit of the eye. And, moreover, the development is proportioned to the natural

gift of the songster. Gall says the organ is larger in the nightingale than in the goldfinch, and it certainly is larger in the song thrush than in the tuneful blackbird. And it is larger in the starling than in the Cuckoo, which has but two musical notes, and Gall found the organ very large in the mocking bird. Other animals cannot be said to be at all endowed with the faculty of appreciating musical sounds, and in strict accordance with this want there is a manifest smallness of the scull above the orbit of that part which forms so conspicuous a feature in the skulls of singing birds.

The organ of Tune embraces within its sphere of action the faculty of perceiving, remembering, and reproducing in new forms the tuneful succession of simple sounds, or of a variety of tones sounding in musical concord, according to the measure of its strength. The first of these results is called melody, the second harmony. But the power of melody may be of a high order, and yet a fine appreciation of time, or the proper intervals in music, may be wanting. Some persons can sing and play in tune without any instruction, who find it difficult to play in concert, from their marking time. On the other hand, there are good "timests" who are not gifted with a very keen appreciation of melody. An auxiliary faculty is required for this, and its organ, which is called "Time," lies, as has been already pointed out, by the side of Tune.

The existence and situation of the organ of Tune is fully proved both by positive and negative evidence. And in addition to the remarkable instances already adduced, I would add Purcell, in whose portrait, engraved by White, after Closterman, the organ of Tune is remarkably protuberant. In a word, every one distin-

guished for creative musical genius, is found to be endowed with a large development of the external part of the forehead, about an inch above the angle of the eyebrow. In Roubillac's fine bust of Handel this part is very conspicuous, and, placed by the side of Dr. Johnson's admirable bust by Nollekens, there is no one who could not at a glance see the vast disparity as to the size of the organ of Tune.

To illustrate the foregoing remarks upon Time and Tune it is well to add here that the transverse outlines of the foreheads of Crabbe, Coleridge, and Godwin, as may be seen in their diagrams, shew a very fine development of the organ of Time, but in those of Thomas Moore that of Tune is paramount. In the "Girl of genius," whose intense intellectual industry caused so high a degree of cerebral excitement that she died insane at the age of fifteen years, the organs of Time and Tune are exceedingly large, while they are remarkably small in the diagrams of the "Stupid Boy." In all these, except the last, the organ of Order was also prominent.

LANGUAGE.

To mankind alone, of all living beings, has the Creator granted the faculty of communicating the ideas of the mind, one to another, by means of articulate oral sounds. The denial of this marvellous talent to animals was, like all other providential enactments, a wise ordination. For as the ideas of animals are comprised within very narrow bounds, which they are incapable of overstepping, they only require, in order to make themselves understood the power of instinctively using bodily gesticulation and inarticulate sounds specially adapted to convey to one another an intimation of the wants and desires which may happen to be actuating them." This faculty has been denominated "Natural Language."

Man is likewise endowed with it. And by its means he is enabled to give the most palpable signification to the emotions which may be agitating him. When a man is seen strutting along, even where he dreams not of being seen by any one, with his head erect and somewhat drawn backwards, it needs no words to say he is a proud man, since his gait and carriage are the true symbols of self-esteem. Need it be told in words that a man is angry and bent on fighting, when his eyes flash fiercely and his clenched fist is drawn backwards, though his tongue denies him utterance. No. For this is the natural language of Destructiveness and Combativeness.

See, on the contrary, the soft, yet gently glowing expression, beaming from the eye of the benevolent, when ministering comfort to the poor, the sorrowful, and the lonely. For instance, in the fine engraving of Fenelon, by Audran, this, the natural expression of benevolence, is strikingly manifested and heightened by a seraphic radiance. How unlike is the countenance of Knox, the Scotch reformer, so fierce and defiant, and not unmingled with a dash of ferocity. The immense development of Combativeness and Destructiveness in his head is quite in unison with this expression of countenance.

But the elementary faculties of the human mind are so numerous, and the ideas resulting from their innumerable combinations, often so complicated, that this so called natural language is totally inadequate to convey any notion of them. Hence the necessity of using articulate vocal sounds, of which "artificial language" is composed. But articulate language, though it is denominated artificial, to distinguish it from what may be called gesticular and natural, is not a whit less natural than the other. And why? Because it is the offspring of the associated action of the highest intellectual and moral qualities upon the faculty which perceives, remembers, and with their aid invents words, which give the most appropriate and eloquent expression to the thoughts of mankind. Articulate language, then, is natural, in the same sense as music is natural, for they are, each of them, built up from a foundation existing in nature. And this foundation consists of the organ of Tune in the one, and of the organ of Verbal signs, that are expressive of ideas, in the other.

And as the power of inventing and of using articulate sounds or words to express their wants has been denied

to animals, so is the brain of every animal wanting in the particular part of it which is conspicuous in that of man, and to which the manifestation of the faculty of spoken language is undoubtedly traceable.

If there were no other mark of distinction (and there are many) between the diminutive brains of the ourang outang, the chimpansee, and the savage gorilla, and the capacious brain of man, with its numerous convolutions, many of the most important of which, those of the moral and religious sentiments, for example, are entirely wanting in these animals—were this not so, there would still be abundant reason to deny the existence of any typical relationship, in regard to the progressive development of species, between this highest order of the monkey tribe and the race of man, from the fact of the existence in the brain of the latter of a conspicuous convolution, of which not the slightest trace exists in the brains of any species of the brute creation, nay, not even of those animals which men of speculative genius would exalt beyond the sphere assigned to them for good by the creator of all, and before which a barrier was placed which the history of all time fully, and according to all tangible reason, proves they have been, are now, and will for ever be, incapable of scaling and surmounting.

When Dr. Johnson said playfully that what distinguished man from any of the lower animals is the fact of his being a cooking animal, there was much of philosophy in what he said, for animals are, from the scantiness of their intellect, incapable of opening a road to improvement, of seeing fitness, or of devising means for effecting a change in the condition of things, so as to render the indispensable adaptation of them to their wants more agreeable and salutary. But this is of the “earth, earthy,”

when compared with the divine gift of language, which is possessed exclusively by the human race.

The organ of this faculty is bestowed more abundantly on some persons than on others, and yet not always in proportion to their intellectual superiority. Of this fact undeniable evidence will be given by-and-by. But first it will be well to describe here, the position of the organ in the brain, and also the external indication of its size.

Let a line be imagined to extend for about an inch and a half from above the root of the nose backwards towards the centre of the brain, and it will be found to reach a projection of bone rising from the base of the skull, called "*sella turcica*," from its likeness to a Turkish saddle. On each side of this body, and just where the optic nerves are about to enter the bony orbit of the eye, there lies a convolution of the brain, in man only, which runs from that point transversely in front of the middle lobe till it reaches the convolutions which constitute the organs of Order and Number, and on its way it blends itself with the posterior portions of the convolutions of which the organs of the other perceptive faculties are composed.

What a wise and beautiful arrangement of parts does this structural development exhibit. And how striking the internal evidence it affords of the position which nature's law would be most likely to assign to the organ of the only faculty of the mind which is connected, in an equal measure, with all the other intellectual powers. And the non-existence of this convolution in the brains of all animals is strong presumptive evidence, also, that the function attributed to it by Gall is the true one.

There is another species of testimony which is still more palpable and persuasive. It is this, namely, that

this convulsion has been found to be the only observable seat of organic cerebral disease when the symptoms have indicated a want of capacity to appreciate the proper use of words during the course of a severe febrile affection. The story of the Welshman who, when suffering from an ailment of this kind, either in Guy's or in St. Thomas's Hospital, forgot the English language which he had been in the constant habit of speaking during many years' residence in London, and spoke in a strange tongue which no one about him could comprehend, until a young Welsh milkmaid, attracted by the patient's words, declared that he was using the Welsh language.

I know nothing further concerning this singular case ; and therefore it is not brought forward as evidence of the truth of the position assigned by phrenologists to the organ of Language. But it is valuable as shewing that the faculty of language may become deranged while the rest of the intellectual faculties are seemingly, at least, in a sound condition. To hazard a conjecture in regard to this case I would suppose that the intimate structure of the part of the brain through which language is communicated was reduced, during the fever, by the action of the blood vessels, to the state in which it was, thirty years before, when the man's vocabulary was confined to the Welsh language ; and that, consequently, it was incapable of remembering anything of the words it had acquired in its more recent, but now suspended condition.

But it is the duty of the advocate, earnest in his conviction of the truth of the cause he supports, to avoid conjectural speculation, and especially when his subject is built up from the sure foundation of facts, which nature renders palpable to anyone who will taken the trouble of investigating them. The following is one of these.

Many years ago, there was brought into the Infirmary at Edinburgh, a man who was suffering from some febrile affection. He was under the care of the able and excellent Dr. William Pultney Alison. In this case a strange symptom shewed itself. The patient seemed to understand what was said to him, but his replies were quite unintelligible, because he made use of words which had a meaning quite different from what he was apparently anxious to convey. The words denoted something which had no connexion with what he intended to say. This he sometimes made known by gesture; and then his wants were guessed at. This would imply that he could understand the proper meaning of words, when used by another, though he could not recall them himself.

Here is a case which shews the gradations of memory. It is like the state of a person who can recognize a melody when it is played or sung by another, but cannot, of his own accord, recall it to mind.

This poor man died. His body was opened and closely examined, and its condition commented on, with his accustomed care and ability, by Dr. Alison, at the next clinical lecture. But what he particularly called our attention to, was the want of power in the patient to use the proper words to express his thoughts, as well as the fact that there appeared not the slightest lesion or injury of the eye where Gall placed the organ of Language. And he, therefore, concluded that the case was unfavourable to the doctrine maintained by Gall.

Now, here is a great physician and physiologist, and a most candid and singularly estimable man, making an important assertion—important—because it was certain to create a prejudice in the minds of scientific and accomplished young men, which any careful student of Gall's doctrine

could in a moment contravene. And when he declared as a proof of his assertion that there was purulent matter found at the side of the "sella turcica," which extended transversely at the posterior inferior part of the anterior lobe of the brain, he was not in the least aware that he was giving an accurate description of the organ of Language in a state of incurable disorganization, while all the other convolutions of the frontal lobe were in a healthy state. But as the size of this organ can be measured only by the position of the eye in the bony orbit, the good doctor was under an erroneous impression as to its true position in the brain.

This case is uncommonly instructive. It clearly shews how wrong it would be to place the seat of the organ of articulate Language in any one of those cerebral convolutions which give its shape to the human forehead. Nor are we justified in doing so, even when the want of power to use words proper is coincident with irremediable lesion of some of these anterior convolutions. For, since upon these undoubtedly depend the faculties of acquiring various knowledge of retaining it and of so associating its details as to render them auxiliary to the diversified phases of the understanding, there cannot be a doubt that their morbid condition would be followed by such a confused conglomeration of ideas, or more surely perhaps by a total absence of them, that the faculty of Language would be divested of any subject upon which its unhappy possessor could use it appropriately, although its own integrity might remain unimpaired.

But when we witness a failure of the faculty of Language, occurring when the convolutions of the anterior lobes are still in a healthy condition, while that one which runs transversely behind them, and, moreover, in contact

with them all, is in a diseased state, there is afforded as palpable proof as Pathology can yield of the truth of the phrenological doctrine respecting the exact local position of the organ of Language.

That the size of the organ can be measured only by the degree of prominence of the eye is thus easily explained. It is a fact fully proved by the researches of physiologists that the bony case, called the cranium or scull, is formed subsequently to the brain; and is, as it were, moulded upon it, and takes its shape from it, as the plaster mould takes that of the plastic clay, which has been modelled into some beauteous form by the creative genius of the sculptor. Now, since the convolution, forming the organ of Language, lies upon the hindmost part of the thin plate of bone which forms the roof of the eye's orbit, and which grows upon, or rather under, this convolution, it follows, necessarily, that if the convolution be large and bulky, the cavity of the orbit will be less spacious and its roof less convex than if the same convolution were very small. When it is large, therefore, there is less room in the orbit or socket for the eye, and consequently the eye is more prominent.

In a state of health, then, a full eye is a sign of a capacity for learning or using language with facility, if the other intellectual powers support it properly. For, as words are but the signs of ideas, they can do but little without the aid of the organs through which ideas are manifested. But superior talent in the use of words may exist without a marked prominence of the eye; because sometimes the organs of the perceptive faculties are so finely developed that the eye is considerably overlapped. But then there is a depression of the eye, which causes a puffy appearance of the under lid, which is a sure

indication of an adequate organ of Language. Such is not the case when the organ is small.

But when a forehead is finely developed in all its parts, save the organ of Language, which is one of comparatively moderate size, you will often find a respectable talent for expressing thoughts with precision and effect, but never with the ease, fluency, and charming, but not redundant, copiousness which characterise the speeches and the writings of Cicero, of Bolingbroke, and of Burke, or which imparted so much persuasiveness to the oratorical efforts of Chatham and of Mansfield, of Pitt and of Fox, of Erskine and of Curran, of Canning and of Grattan, of Plunkett, Brougham, and O'Connell. In all these leading men the organ of Language was largely developed. But, though they might vie with each other in the *copia verborum*, the characteristics of their oratory were different, because these were the natural result of the peculiar manner in which the organs of the intellect and of the feelings were relatively developed in each of them. In the famous orator, Charles Townsend, whom Edmund Burke has so highly eulogised, the organ of Language was very large, according to the portrait of him by Sir Joshua Reynolds. In Milton, Dryden, Pope, it was very prominent. Indeed, the organ predominates in all those who have devoted themselves to the pursuits of literature to the exclusion of every other occupation. In Voltaire, for instance, and in Gibbon, and in Hume, the prominence of the eyes is a striking characteristic. Such is likewise the case with some men whose minds were constantly occupied with public affairs of the greatest importance to nations. In Frederick the Great, for instance, the love of literary fame was very strong, and the organ of Language is very large in the portraits of him. In

the great Richelieu, also, it is extremely large. In all great talkers this organ is large. But all in whom it is large are not great talkers. In William Godwin the organ was very large, and though his mind was full, he was not at all inclined to put himself forward as a talker. Indeed, in his Fleetwood, he takes pains to shew how little he valued the gift of great talking. Coleridge, on the contrary, was singularly endowed with this power, and almost morbidly anxious to display it. An esteemed and discriminating friend of my own told me that he had heard Coleridge talk in a most eloquent and sublime strain, without intermission, from eight o'clock in the evening till a very late hour. But to him the discourse was more remarkable for extraordinary brilliancy and a superb display of poetical and philosophic imaginings, clothed in language the most gorgeous that could well be conceived, than for the imparting of such substantial information as was likely to sink deep into the enraptured listener's mind. And though the blaze was vivid and continuous it partook more of the character of meteoric light or the corruscations of lightning than the steady and fixed light of the planets. It dazzled more than it enlightened and was surprisingly eloquent rather than precisely impressive. Yet there was no weariness felt while listening so long to that most eloquent soliloquy. Why this disparity between two such eminent literary characters? Why! Because their intellects were cast in very opposite moulds, as were also their dispositions (see Plate 1, diag. 2, & Plate 10, diag. 3). Godwin, as the shape of his head indicates, was more reserved and retiring in his manner, and less hopefully disposed to communicate his thoughts in company; and moreover, he was less influenced by temporary applause. Besides, he

was, characteristically, more thoughtful and reflective than Coleridge; though he could not cope with him in brilliancy and fertility of perceptive power, and in the faculty of communicating his thoughts apparently with the rapidity of improvisation. In fact, the organs of the reflective faculties were dominant in the head of Godwin, those of the perceptive in that of Coleridge. Not that this great poetical genius was unendowed with good reflective organs, and this was shewn whenever he chose to exercise them; but they were not of force sufficient, (at least, relatively) to curb his capacious perceptive organs in the discharge of their brilliant and ardently sought for displays. He was so far carried away that he never once reflected that he was monopolizing some portion of time, which ought to be awarded to another speaker.

It is to this cause we are seemingly to attribute Coleridge's thoughtless habit of engrossing whole evenings for the display of his marvellously eloquent talk: for though fond of display, he was neither arrogant nor offensively assuming.

The illustrious scholar, the powerful and eloquent writer, Samuel Johnson, was endowed with a very large organ of Language. He too, like Coleridge, was a great talker and the centre of attraction. But Johnson loved argumentative conversation. It was his glory to have the vivid light of his reason and his eloquence elicited by collision with the opinions of other thinkers, to whom he usually listened attentively, if not patiently. Coleridge, on the contrary, would not speak at all, it is said, if others ventured to share in the conversation.

On phrenological principles these striking discrepancies are easily accounted for. In Johnson the organs of the reflective faculties were, relatively to those of the perceptions, larger than they were in Coleridge; and Causality especially.

Johnson was, therefore, more concise, concentrated, and argumentative. There was a diffuseness, sometimes degenerating into vagueness, as some thought, in the original and brilliant thoughts which were enshrined in the glowing and poetically beautiful language of Coleridge. He hurried on unceasingly, and, as it were, instinctively, without sufficiently reflecting upon the goal to which the brilliant light of his superb imagination was likely to lead him. At least he did not always make the path clear to others (see Plates 9 and 10).

In Edmund Burke, also, as has been already noticed, the organ of Language is very prominent. And, as his mask, taken during life, clearly shews, his full expanded forehead possessed, in an eminent measure, all the dominant features of the foreheads of Godwin and Coleridge. He was as eloquent and as sublimely descriptive as Coleridge; but he was, moreover, as Johnson said, a man whom you would look upon as the wisest man you ever saw, had you only taken shelter with him under a gateway from a shower of rain, and heard him talk for five minutes. And, on another occasion, the same great judge and fastidious critic said, "I don't wonder at Burke's being the first man in the House of Commons, for he is the first man everywhere." Not even excepting in thought, as it would seem, the famous club of which he was himself the most prominent member.

It was the harmonious blending of all the intellectual organs in the finely-symmetrised and capacious forehead of Edmund Burke united with an uncommon amount of those of the noblest sentiments of man's nature, and heightened into excessive beauty and intensity through a vast development of the organ of Ideality, or the sense of the beautiful and the perfect—it was the union of all these noble qualities

with moral courage of the most lofty kind, which raised Burke almost to the level of Bacon in intellectual power, and in action far above him in moral fortitude and energy.

It is hoped that these remarks will not be deemed digressive, for as language is the power which acts in unison with all the rest, it is not out of place to say a word or two on the mutual influence of the faculties.

Again, do we not find great intellects that are proverbially or, at least, historically, deficient in ability to master the refinements of Language? There have, indeed, been men of great genius who were utterly incapable of becoming good linguists, or of giving eloquent expression to their thoughts. Such men are instinctively averse to devote their time to the careful study of Language. And the immediate cause of this peculiar incapacity is owing, in such cases, to a scanty development of the organ of Language. John Hunter, Canova, and John Rennie, each a genius of the first class in his own calling, had very little capacity for Languages. And in perfect accordance with the phrenological law, so often announced, was the development of the organ of Language in each of them.

There used to be a plaster cast of the face of Hunter in the Museum of the College of Surgeons, which was conspicuous for the smallness of this organ; and in the posthumous cast of Canova the same characteristic is strikingly evident. In Chantrey's fine bust of John Rennie, also, a like relative deficiency of the same organ is conspicuous.

Should the emaciation of Canova be considered as a cause sufficient to account for the hollowness of the eye, it is only necessary to compare his cast with that of Richard Brinsley Sheridan, who, at the time of his death, was equally emaciated, and the prominence of the eye in

Sheridan will satisfy the most obstinate objector. In the mask of Charles James Fox, taken after death, when his face was remarkably attenuated, the organ of Language is excessively developed; and it was even larger in the mask of Chatham after death, though his face, also, was considerably emaciated.

When the illustrious naturalist and traveller Alexander Von Humboldt was giving an account of the wonderful capacity, early displayed by his elder brother William in the acquisition of knowledge, he was mindful of the great exertion he himself had to use in striving to keep up to him, while his brother seemed to learn everything without the least trouble, and seemingly without effort.

At that time, during the period of education, it is likely that these distinguished brothers, like other students, derived the principle part, at least, of their knowledge through the medium of words. And as the development of the organ of Language was far greater in William than in Alexander, it follows, though their perceptive powers might be nearly on a par, that the former could learn with greater facility and rapidity than the latter.

In the head of Cobbett the organ of Language was neither absolutely nor relatively a prominent part, though it was fairly and adequately developed. As his forehead indicates, he had an ardent thirst for substantial knowledge, and superior capacity for acquiring it. He was from the same cause naturally desirous of communicating it to others. But as that must be done through the use of language, he laboured, in the face of great obstacles, to gain the power of writing and of speaking his own language with propriety. These efforts enabled him, in subsequent years, to compose an excellent Grammar of the English language. But, seeing the general use made of

the French language, he set about learning that with his instinctive energy ; until, in a surprisingly short time, he was capable of writing an English Grammar in the French language to teach French people English.

It was for its great practical usefulness that Cobbett was induced to exert his talents in this way, and not because he was constitutionally a philologist. For he loved language only as it formed the means of communicating useful knowledge. His utter contempt of the ancient languages, so strongly expressed in his writings, is a certain proof of this. In his style of writing all was vigour, perspicuity, and exactness. Like Swift he was eminently copious and clear in the enunciation of all the facts upon which his opinions were founded ; but though perhaps as convincing, his language was less flowing and abundant than that of the Dean. And in strict accordance with this it is remarkable that although the form of the forehead in each of them was, in an eminent degree, indicative of the presence of political and historical tendencies, which amounted to the intensity of overruling instincts, yet the organ of Language was much larger in Swift. Cobbett was abundantly fluent in his enunciation of facts and passing events, and would by some be deemed redundant in that respect ; but as to his style of language there was a striking absence of redundancy or diffuseness. His sentences were sometimes very long, but there was no verboseness. They were composed of clauses relating to facts which illustrated and verified, as he thought, the point he wished to establish. Here it is instructive to add that Individuality and Eventuality were strikingly developed in the forehead of that remarkable man.

But if Cobbett made one or two languages a special study, with the view of communicating useful knowledge,

whether of a public or domestic nature, there was once in this country another self-taught man, who became master of nearly twenty languages. This was Richard Robert Jones, the poor Welsh sawyer, whom the late benevolent and enlightened Mr. Roscoe of Liverpool humanely took under his charge, in order to keep him from want, for this extraordinary linguist was neglectful of providing himself with the common necessities of life. His whole thoughts were engrossed in the study of words and their etymology. He cared little or nothing for the uses to which they were applicable. For on being once asked what *Andromache* meant, he answered, "a fight of men," which is the literal English of the Greek words *Andrōn machē*. He only thought of it as a derivative term, and seemed to be forgetful of the fact that it was the name of the beloved wife of Hector, the greatest of the Trojan heroes.

The forehead of this helpless poor man was large and generally symmetrical. But the organs of Individuality and Eventuality were of only moderate size, while that of Language was very large. Yet his neglect of his own well-being and comfort did not proceed from the utter incapacity of those organs, if they had been assiduously cultivated, but because the dominant force and instinctive activity of the organ of Language riveted his whole attention to that pursuit, which was alone calculated to gratify its insatiable longings. Such, with regard to the faculty of arithmetical calculation, was, as we have already seen, the case with Jedediah Buxton.

But yet it is true that there are many negroes, possessed of prominent eyes, who are still unendowed with even moderate capability for learning language or for using it with propriety. Nevertheless, such negroes are

always fond of talking. But their style of speaking is very often ludicrously incorrect, owing to the want of a harmonious development and blending of the organs of the perceptive and reflective faculties, as well as to the absence of an adequate equipoise of the organs of those powers, which are indispensable to the proper arranging and methodizing of their ideas. It is the relative deficiency of those last-mentioned parts of the negro's forehead which renders his large organ of Language of inferior value; and it also accounts, according to what has been pointed out in the essays on Time and Order, for the general deficiency of that race of men in habitual industry, and their proneness to give way to indolent or desultory habits. Of course there have been some remarkable exceptions to this rule. But, nevertheless, the rule is, all over the world, notorious as a general one.

It is this want of harmony in the development of the organs which renders it difficult to teach some negroes, who are otherwise keenly observant, to spell and read with facility. It is to this confusion of ideas that their want of presence of mind in unusual instances of danger is attributable, and not always to absence of personal courage.

Sometimes water on the brain causes the eyes to protrude. But this, being the result of disease, affords no sure criterion for pronouncing an opinion as to the extent of the organ of Language in such a case. This protuberance is also of doubtful import in some Cretins. For, from examinations that I have had opportunities of making of casts of Cretin skulls, it was obvious that the eye during life must have been very prominent. But this was caused not by a great development of the convolution which is the organ of Language, but by the

shallowness of the orbit, caused by the want of fulness of the perceptive organs, and the great size of the middle or lateral lobe of the brain which curtailed the depth or cavity of the orbit.

To avoid exposing Phrenology to misapprehension it is necessary to hint at these precautions. But there can be no difficulty, after study and practice, in forming a just estimate of the absolute and relative size of the organ of Language, either in the skull or the living head.

In the oral or written discourses of persons whose intellectual organs generally, both perceptive and reflective, but especially the latter, are only moderately developed, while that of Language is very large, there will always be found more volubility and redundant verbosity than substantial knowledge. Even that great poet and most minute and accurate describer of the conduct of men, Crabbe, has in the opinion of some critics, occasionally degenerated into verbosity, though certainly the subject-matter of his theme is never enveloped in a cloud of words. A phrenologist would account for this by shewing in the cast of his head from nature that the organ of Language is very prominent, and forms a conspicuous feature beneath his finely-developed forehead, which is strikingly indicative of rare powers of observation as well as of superior capacity for arranging them perspicuously (see Plate 2).

Sir Walter Scott was endowed with a large organ of Language, and his memory of words was very powerful. Hogg, the Ettrick shepherd, was on a fishing excursion near the Tweed with Sir Walter and one or two others, when suddenly their peat ceased to burn. And while a messenger was sent to a place two miles off for another fiery peat to illumine the pitchy darkness of an evening

in January, Sir Walter called upon Hogg to sing his ballad of "Gilman's Cleutch." Hogg immediately began to recite it, but he stuck fast, as he says, at the ninth stanza. Upon this Sir Walter commenced the ballad, and without making a single mistake repeated the eighty-eight stanzas of which it consists. This astonished Hogg, who knew that Sir Walter had only heard it once from himself three years before, and could not have heard or seen it a second time, as the ballad had not, up to that moment, been committed to manuscript. On the shepherd's testifying his astonishment at this extraordinary display of memory, Sir Walter said "he had been out with a pleasure party as far as the opening of the Firth of Forth, and to amuse the company he had recited both that ballad and one of Southey's, 'the Abbot of Aberbrothock,' both of which ballads he had only heard once from their respective authors, and he believed he recited them both without misplacing a word."

The great power possessed by Sir Walter Scott of arranging his ideas, and of bringing them rapidly into harmonious action, was eminently calculated to strengthen and support his organ of Language for the performance of such an extraordinary effort of verbal memory as the one just narrated. But to shew that the organ of Language is the main source of this power (and it is certainly the only one that can take any cognizance of mere words), I will mention the singular case of Jack Fletcher, the famous fool of Wargrove, in Berkshire. There is an engraving of this poor man, which was published in 1735, from an original drawing in the possession of the lady whose account of him is given at the foot of the print. Mrs. Berkley, the granddaughter of the Rev. Henry Frinsham, "who was poor Jack's best friend," says, "Jack

Fletcher was perhaps as extraordinary a being as ever nature formed. One of the many instances of the Almighty's will to puzzle if not convince sceptics. He was born at Wargrove, a village in Berkshire, on the banks of the Thames. It soon appeared that he could not be made to earn a livelihood by any handicraft trade, as a husbandman, or as a keeper of sheep. He was frequently employed to go on errands, which he performed punctually. . . . His favourite amusement was very innocently taken on the Sabbath day, his delight being to go to some distant church to hear a variety of preachers. And one of the traits in his wonderful mind was his astonishing power of taking off the preachers, which he did so admirably that, if in the next room, one might have ventured to swear that the rector or vicar of ——— was actually preaching there, and this not confined to one or two, but more than half a score. That weak persons," continues Mrs. Berkley, "have sometimes strong memories is a well-known fact, witness the late Mr. Pitt, of Binfield, in Windsor Forest, commonly called Billy Pitt, a man of vast fortune, very charitable to the poor, yet very nearly an idiot. He had very large goggle eyes, without the least meaning in them. His mouth always open." As a proof of Mr. Pitt's weakness of mind the lady says—"He one day insisted on his upper gardener setting his, Mr. Pitt's, watch by the dial. It was in vain that the man assured him that the sun had gone off two hours. He persisted and the servant obeyed. The present premier (Chatham) is a relation of his." "Jack," says the narrator, "had also some judgment, for he treated ladies with respect, always calling them Mrs., Madam, or My Lady, while he constantly called their husbands and sons by their Christian names. . . .

He generally came once a week to my father's, who used to say, 'Well, Jack, where were you last Sunday?' 'Why, Harry, I went to hear old Tom Brown at Bray, or Mat Tate, or Will Waterson.' 'Well, what was the sermon?' He would then begin and preach half of it." Then follow some interesting and affecting incidents which, although they do not directly appertain to the organ of Language, are, nevertheless, valuable in shewing that poor Jack was not altogether divested of shrewdness and some degree of reflection. It happened about this time that Jack attended the funeral of a gentleman who was in the habit of playing nasty practical jokes upon this poor creature, and when the service was ended, Jack approached the grave, and shaking his head, thus began—"Ah, poor Mr. —, thee has made a fool of poor Jack. I wish thee mayest not now be a greater fool than ever thee hast made of him." One day Jack said something for which this lady's grandfather mildly reproved him, saying, "Oh, fie, Jack, you should not say so! God will be angry with you." He looked very grave, and said in a very melancholy tone of voice, "I thought God did not take any notice of fools."

The fact that this "Wargrove Fool" being engaged in carrying messages is a proof that he must have possessed the faculty of remembering incidents. And the organ of Eventuality, upon which this talent depends, was rather fully developed in him. But, the forehead is very narrow; and the skull, as a whole, appears small; so far as the slouched hat he wore will admit of a judgment being formed in that respect. But it is his organ of Language and the elementary faculty of remembering words which principally demands attention here. And certainly the remarkable fullness of his eyes is indicative of the presence of a very large organ of the memory of words.

Here then, is a poor man, who was welcome to the hall or kitchen of every gentleman and farmer in the country, for miles around, and plenteously fed by them, because he was mentally incapable of providing in any way for his own sustenance ; but who, notwithstanding his imbecility, possessed the uncommon faculty of remembering a long discourse and of repeating it word for word. Can there be a more decided proof of anything than this case exhibits of the existence of a primitive independent faculty of perceiving and remembering words? Nor can there be anything more clear than the evidence which the portrait of the Wargrove Fool affords of the coincidence between the talent for remembering words and a remarkable protuberance of the eyes.

Mr. Pitt, of Binfield, was, as we have seen, another, and almost a similar instance of the strength of the memory in regard to the faculty of words ; and he is described as having large goggle eyes. His great relative, Chatham, had also very prominent eyes. But as they were, in his case, surmounted by a forehead of remarkable symmetry, though of moderate dimensions, the scope of the faculty was not confined to the mere memory of words : but served to render him one of the most eloquent of orators. The "goggle eyes" of Mr. Pitt, of Binfield, calls to mind the epithet *Boöpis* (ox-eyed) applied by Homer, three thousand years ago, to Juno, the queen of the Olympian Jupiter, whose patience was often put to a severe test by her unseasonable talkativeness. Was Homer, then, aware of the fact that great talkers have prominent eyes? It may not have escaped his wonderful powers of observation.

Words, then, which are merely the signs of ideas, are the result of the presence of a special organ, which is to be found only in the brain of man. And this organ is

capable of being discriminated in all its gradations of size, through the position of the eye in the orbit. For instance, from its sunken state in the absolutely wordless, indocile Peter, the wild boy, to its great prominence in the Wargrove fool, who was so garrulous, and so remarkable for his astonishing memory of words, or to its great size in Jones, the helpless Welshman, who had acquired, without assistance, a knowledge of many languages. And who, in his latter days, gave his whole attention to the compilation of a polyglot dictionary. Or let a survey be taken of its relative development in John Hunter, Canova, and John Rennie, in Milton, Dryden, Voltaire, and Samuel Johnson, and there will be no difficulty in pointing out amongst these the men whose intellectual instincts prompted them to use words as the exponents of their ideas, as well as those who, naturally, chose other channels for communicating the creations of their genius, because their inward monitor *Consciousness* early informed them through its organ—*Eventuality*—that they were not gifted with a command of words.

But it may be objected by some, who prefer to take conjectural opinions for their guidance, rather than to trouble themselves with a strict investigation of nature's laws, which can only be done by means of a knowledge of the facts, which she is constantly and unchangeably presenting, that the philosopher, Condillac, and others were of opinion that without language there would be no ideas. And, therefore, they are indisposed to acquiesce in Gall's views respecting the organ of Language. Surely a few facts will serve to refute so groundless a theory as this, notwithstanding the superior genius of its propounder.

But what availeth lofty intellectual attributes, if they

are employed in building castles in the air, or in constructing their temples of philosophy upon foundations of shifting sand. Splendid for awhile to look at, but utterly unsafe to inhabit. The possessors of such noble qualities "seem" (to use the words of Bacon) "to have followed only probable reasoning, and are hurried in a continual whirl of arguments, till by an indiscriminate licence of inquiry, they have enervated the strictness of investigation. But no one has been found of a disposition to dwell sufficiently on things themselves and experience." And again he says, "For all who before us have applied themselves to the discovery of the arts, after casting their eyes awhile upon things, instances, and experience, have straightway invoked, as it were, some spirits of their own to disclose their oracles, as if invention were nothing but a species of thought."

Such a course is that which has been pursued in regard to it by all those who have set their faces against the reception of Gall's great and eminently valuable discovery.

And now let us see whether a few simple instances, already noticed, are not conclusive evidence of the palpable error, to which Condillac committed himself, when he said that without language there would be no ideas.

The Wargrove fool, as we have seen, could call to mind at a given moment a greater number of words in the order in which they were spoken than some of our greatest philosophers are capable of doing. But very few were the distinct ideas which they conveyed to his mind. Poor Jones, the surprising linguist, though no fool, seemed to have studied languages in a mechanical spirit only, for he derived but few ideas from his critical knowledge of them. Mr. Pitt, of Binfield, is another instance of the

absence of the ability to form or to acquire rational ideas respecting even ordinary things although he possessed a great memory of words. His insisting on his gardener's setting his watch by the sun-dial two hours after the sun had gone down is a striking illustration of that fact. But the case of James Mitchell, of Nairn, in Scotland, as narrated by Spurzheim, is calculated completely to overturn Condillac's hypothesis. This lad was born deaf and blind. But though he was thus rendered incapable of being influenced in the slightest degree by signs addressed to hearing and to sight, yet he manifested clear perceptive and reflective faculties as well as strong social affections and moral emotions. Spurzheim finishes his minute history of the habits and dispositions of this remarkable youth in the following words. "I shall finish what I have to say of this singular being, by speaking of his sense of property. One day he meets on the road a man mounted on the horse which had been bought of his mother some weeks previous. Mitchell according to his custom touches the horse, appears to recognise him instantly, and makes a sign to the rider to dismount. The latter, in order to observe his intention, obeys, and sees with surprise that Mitchell leads the horse to his mother's stable, takes off his saddle and bridle, gives him oats to eat, retires, shuts the door and puts the key in his pocket."

Can proof more thoroughly conclusive be brought forward of the truth of anything than that which these singular cases afford of *the existence of innate dispositions and talents, and of the inadequacy of the external senses and experience either to originate or to account for them?*

But if even fools, with very prominent eyes, are found to possess a powerful capacity for remembering words,

it is also true that fools, with very sunken eyes, are incapable of remembering words or of correctly applying them. A case of this kind came under my own notice when I was a mere youth, yet notwithstanding the length of time that has since elapsed, I remember well the large head, with forehead projecting at the top, and flattened comparatively across the brows, and the small eyes, almost hidden in the posterior recesses of the orbits, of a fool named Pather, or Peter, who wandered about from one country house to another in the neighbourhood of Tuam, county of Galway, to gain food and shelter. He was not altogether destitute of ideas, and he had some glimpses of reflection. But he had little or no power of calling the things most familiar to his own thoughts by their proper names. His favourite tobacco, for instance, he would call by some other term, and a halfpenny, which he was sure to beg, he called by a strange name. The terms, master and mistress, he knew in his native Irish, but though he could be brought to pronounce them with tolerable correctness, he would, next moment fall into his habitual and, to a stranger, unintelligible mode of articulating them. He never uttered the proper name of anyone. But he would name a man, upon seeing him do something remarkable, according to the nature of the act. For instance, having one day seen a doctor bleed a poor man, he ever after called the doctor by a name which, translated into English, is "blood out." He had sense enough to know that some persons were nearly related to each other. This poor creature never spoke, except when he wanted something, and then used not the proper name of the thing, but more commonly, as I have before said, he adapted some fantastic inappropriate term of his own.

Another great want of the faculty of language, accompanied by remarkable deficiency of its organ occurred in the instance of Peter the Wild Boy, of whom there remains a very good whole length mezzotint engraving. This poor creature, of whom Lord Monboddo gives a circumstantial account, was never known to utter a word, except Peter and King George (by whom he was brought from Hanover, where he was found in the woods), notwithstanding his having been sent to school by the king, who also allowed a pension for his maintenance. But though the organ of Language was not strong enough to suggest words, it was capable of perceiving their import when spoken by his attendant; for on being asked to sing Nancy Dawson, he did sing it. He had the faculty of perceiving the meaning of a few ordinary words, but he seemed not to have the power of reproducing them. In addition to his small organ of Language it is necessary to remark that the reflective organs are, according to his portrait, extremely narrow, and retreat suddenly from the brow.

The fact of this idiotic man being able to pronounce correctly his own name and that of the king, his benefactor, is a proof that his inability to speak was not owing to a faulty construction of the organs of voice. Are we not justified then, according to analogy and experience, in supposing that his inability to speak had its source in a very deficient organ of Language and a striking smallness of the organs of the intellectual faculties? But, his portrait displays a fuller development of the organ of Tune; and that accords with his very slender capacity for singing.

Although the organ of Language, as it is denominated, must be deemed to be the only repository of words, yet

it would be an error to suppose that it alone possesses the capacity for applying them, as the signs of things, with any inherent discrimination of its own. No, it is to the other intellectual faculties, when acting in combination with that of language, that this mighty human privilege belongs. In the mutual commerce of ideas and words it is the perceptive and reflective organs make the demand, while the supply is accorded by the organ of articulate language. And the demand will be in proportion to the energy and general fertility of the intellectual faculties. But this demand will be responded to more or less readily according to the development of the organ of supply. And, should its store be narrow and scantily furnished, there will be but little instinctive sympathy between the organ of Language and the other intellectual organs. There will, therefore, only be a faint desire to choose words as the communicators of ideas; and then merely through the force of necessity. But, when the organ of Language is very large, it forces its services upon the other faculties by its own instinctive vigour and love of action, and would seem to stimulate them, in its turn, to increased efforts. So great indeed is the power of words that they sometimes convey a vivid impression of the mental picture almost before the appropriate faculties have been brought thoroughly to bear upon it.

Words, then, are manifestations of one of the elementary faculties of the human mind in a state of action. And there is, it is obvious, abundant evidence, of an incontrovertible nature, both in health and disease, to prove the true seat and external symbol of its organ. And can anything be more exquisitely appropriate than the contiguousness of this with every one of the other perceptive organs. For, since words are but the articulate signs of

ideas, it seemed necessary to place their organ in contact with each and all of the other intellectual ones. And, as every human being, in a rational state of mind, is possessed of the same number of faculties, so do we find that all languages are composed of "parts of speech," which are identical both in number and in kind. And, as the mind gradually awakes from the sleep of infancy, so do its faculties acquire, progressively, a knowledge of the class of words which are specially adapted to their elucidation, and which were in the beginning the produce of the instinctive workings of these faculties.

Physical objects first arrest the attention of children, and their first words are nouns substantive. Such is the language of isolated Individuality. Then come nouns adjective with respect to the physical qualities of things, such as green or yellow, large or small, heavy or light. The organs of these faculties are the first to become active. And, in that season of life, nouns and their adjectives are the only words young children are capable of using. They do not yet comprehend the use of the definite and indefinite articles, because these imply increased power of perceiving ideas of relation, which depend upon the action of the organ of Comparison. To understand the adjectives which denote moral attributes, such as good and bad, happy and miserable, requires a greater effort still of this reflective organ of Comparison, which is rather later in assuming its functions than those above named, and consequently the terms expressive of them are not so early understood. The meaning of verbs is not appreciated until another set of organs become active, especially Eventuality, Comparison, and Time.

Eventuality takes notice of the action, change of condition, or state of being of anything, and calls upon the

faculty of Language to supply a word expressive of that fact. That word is denominated a verb. It may be in either an active or a passive state. Here Comparison comes into play, and to estimate its changes of mood and tense the organ of Time is absolutely necessary. In theory such an auxiliary would seem to be indispensable, but, when we come to consider the results of long tried experience, there can be no doubt as to the invariable fact that young persons who are but poorly furnished with the organ of Time have always the greatest difficulty in understanding the true nature and changes of verbs. And their trouble is enhanced by a scanty development of the organ of Order. While a full development of both facilitate their progress in the study of grammar. The necessity for using pronouns is understood at a more advanced period of childhood, for there is a superior effort of Comparison required to understand the use of pronouns than that of adjectives, since one little word of that class is made to represent an innumerable variety of nouns. And, with respect to adjectives, how clearly do we perceive the increase of complicated action in the intellectual faculties as we advance from those which designate the qualities of physical objects to participial adjectives. For instance, to understand the appellation "tall man" does not demand the simultaneous action of so many intellectual faculties as are engaged in the comprehension of the phrase "dying man."

In all languages the "parts of speech" are unchangeable, because they are the direct emanation from intellectual faculties which are intrinsically the same in all mankind. But the forms of these parts of speech differ much in different nations, owing to the predominance of the perceptive or reflective powers. What for instance,

has caused the absence of the neuter gender in the French language? What but a greater tendency in the national mind to individualize than to imbue their language with a generalizing spirit. And again, in the conjugational changes of verbs the same peculiarity of intellectual constitution is manifest, as well as in the giving of names which have no radical connection with each other, to things, the uses of which are analagous, but which nevertheless have a distinct individuality of their own. As, for instance, *couteau* for table-knife, and *canif* for pen-knife. How simple in these respects is the spirit of the English language as contrasted with the French. The great disparity between the German and French languages is accounted for by Spurzheim in the predominance of the organ of Individuality in the French head and of that of Comparison in the German.

If from nations we turn to individuals we shall find the same law to prevail. "*C'est style est l'homme même,*" says the eloquent Buffon. But, though this fact struck the acute mind of the great naturalist, he was in the dark as to the immediate cause of it. To Phrenology alone the credit is due of having rendered the cause apparent by shewing the physical conditions upon which its existence depends. For instance, no two heads could be more unlike than those of Edmund Burke and William Cobbett, and surely in their style of thinking and of writing no two great writers could be more opposite.

Burke, with his superior organ of Causality, always striving to reach the principles of things by a minute comparison of the facts connected with the case; Cobbett, desirous only of seeing effects, never troubled himself about the cause, provided the effect was, to his mind, salutary. How well this disparity is accounted for by the great size

of the organ of Eventuality in Cobbett, as compared with his moderate organ of Causality. While in Burke there is a fine development of both organs. And again, Cobbett, with his scantily developed organ of Ideality, could find little pleasure in the many passages of Burke's writings and speeches, which abound in images, so full of poetic sublimity and beauty, and clothed in words the most appropriate and vividly eloquent, that they remain as a monument unsurpassed in grandeur by any writer of any place or of any time. The source of this characteristic of his style is to be found in his very large organ of Ideality. Then there was that "Sensibility of principle, that chastity of honour, which felt a stain like a wound, which inspired courage, while it mitigated ferocity," in Burke's nature, which spread a moral charm around all that he has written. These two great writers are marked illustrations of the saying of Buffon, "*C'est style est l'homme même.*" The forehead of William Godwin, in its general form bore some resemblance to that of Burke, and there was in him, also, the disposition and the power of eloquently searching after causes, although he was more inclined to indulge in casuistical speculations than Burke's; and he was far less practical owing to the comparative inferiority of Individuality and Eventuality. The great disparity between the styles of Cobbett and Godwin is, also, clearly accounted for by the remarkable want of resemblance in the form of their foreheads and, indeed, of their heads altogether.

It is certain, then, that words are but the signs of ideas, and that these are the result of the action of the intellectual faculties upon phenomena, which come from the external world, as well as upon those which arise in the inner world of our own minds. But words in their turn assist in the

forming of ideas and in raising images in the mind, sometimes as vivid as if the images were real.

But words, nevertheless, are not simply an emanation from the faculties that form ideas. They possess an elementary vitality of their own, that inheres in an organ of the brain which is quite distinct in its position and function from every other organ.

So many remarkable instances, occurring both in health and sickness, have been already given in confirmation of the special organ of Language, that it would be tedious to name a small portion of the vast catalogue of illustrative facts, which have come under my own notice, of the invariable coincidence between the talent which supplies mankind with words and the position of the eye in the orbit. Yet there occurs to me, now, a contrast, which it is instructive to notice. There is a fine bust by Houdon of Buffon, and a beautiful engraving of him by the famous Houbracken. In both the organ of Language is extremely large. In the mask from nature of John Hunter, and in Sharp's fine engraving of him, from his portrait by Reynolds, the same organ is small. In both there is a fine development of the intellectual organs. But, though Buffon was, perhaps, endowed with equal capacity for minute research into details, he would scarcely evince the same persevering industry, in regard to such pursuits, that so uniquely characterized Hunter, because the predominance of the organs of Ideality and Language in his head would tend to withdraw his attention from the drudgery of anatomical dissections and dry physiological experiments, in order to display his marvellous eloquence in describing the wonders of creation. To judge by the mask and portrait of Hunter, neither Ideality nor Language had power sufficient to withdraw his mind for a moment from

the contemplation of anatomical subjects in their minutest details, until he had made himself acquainted with their properties and causes. Cuvier had the assiduous perseverance of Hunter, together with some of Buffon's literary ability. So far he had the advantage of Hunter in versatility; and the source of this superiority, as a writer, may be traced, in his busts and portraits, to the organs of Language and Ideality, which are in him far superior in development to the same organs in Hunter. It should be noted that the organ of Causality is larger in Hunter than it is in Buffon, and much more characteristic.

There is not the least doubt that the faculty of Language or the sense of words has its organ at the back of the anterior lobe of the brain; and that the size of the organ may with certainty be estimated by observing the position of the eye in the orbit. And that the spirit of a Language is not the emanation of this organ solely, or of any part of it, is equally certain, although Gall himself conjectured that, probably, the knowledge of words and the spirit of Language were both of them elementary attributes of this single organ.

COMPARISON—SENSE OF ANALOGY.

THE organs of those perceptive powers, which acquire a knowledge of the qualities of external objects, are capable of comparing peculiarities in such qualities, as come within the sphere of their own isolated function. Colour, for instance, can distinguish, through an inherent power of its own, between the beauteous hues of the blushing rose and the dingy stock upon which it is grafted. Tune has within itself the faculty of comparing the discordant notes of a rude oaten pipe with those which issue from a finely constructed hautboy, when played upon by a master. The sense of Form could compare, and by comparing, appreciate the difference between the deformity of Thersites and the noble symmetry of Achilles. But not one of them all has in the least the power of discerning the resemblances which the organ or faculty of Comparison is capable of detecting in some of the relations or accidents of things which are in their nature almost totally dissimilar. It would never strike the perceptive faculties that any likeness could be found between the Emperor Nicholas and his fortress of Sebastopol. And yet there was a resemblance in the most prominent attribute of both of them. That attribute was power. Nicholas was powerful as a monarch, Sebastopol as a fortress. When Christ said "I am the door," he shewed his

disciples in a style at once palpable and impressive, that it was through Him they had to pass before they could enter the kingdom of His Father. When again He says, "I am the vine," He meant to convey to their minds that everything vivifying and refreshing was to be found in him.

This power of seeing resemblances in things which are, in their general attributes, entirely different, comes within the sphere of action of the organ of Comparison. And as its functions are more elevated than those of the perceptive faculties, so is the seat of its organ raised above theirs in the conclave of the intellectual powers. It also holds a central position which is a characteristic of organs that are radically of the highest importance. The convolutions of which it consists are supported below by the organ of Eventuality, and on each side by those of Causality. At the top it is in contact with Benevolence.

Its central position between the organ of the most benign of the moral and religious sentiments, and the most important of the perceptive organs is well adapted to the discharge of the functions it has to perform, since these appertain to each and all of the faculties. For it recognises resemblances not only in the attributes of incongruous physical objects, but also between things physical and things imbued with the characteristics of spirituality. It was, for instance, comparative sagacity enabled Plato to imagine and declare that if virtue could assume the human form, that form must be beautiful. There could not be any likeness whatever perceived by those of the perceptive faculties, which take cognizance of material objects only, between virtue and the human form. But the attribute of beauty might belong to a

human figure, and so far it would bear a resemblance to virtue. Without the reflective faculty of Comparison, this analogy could not be comprehended.

Eventuality, which prompts us to seek knowledge of every kind, so far as the other perceptive organs can minister to its wants, is strongly supported in its efforts by Comparison. When the latter points out or suggests that a likeness exists in things that before seemed the reverse of each other, the former acquires a fresh stock of information. Hence it is more agreeable to trace resemblances than differences, because, as Burke says, "by making resemblances, we produce new images, we unite, we create, we enlarge our stock; but, in making distinctions we offer no food at all to the imagination."

Eventuality in its turn, amply repays Comparison by supplying it with materials to work upon, by virtue of its being the faculty which recognizes the existence and capacity of all the other organs, and assists in rendering their efforts additionally vigorous, in order to gain a fresh supply of knowledge.

This reciprocal action would lead to the influence that the feeling of personal identity depends upon these important neighbouring organs. But since Eventuality accumulates in its storehouse of reminiscences the acts even of Comparison itself, it is to it should be attributed, chiefly, if not entirely, the feeling of self-consciousness.

It should be borne in mind that, when we enlarge upon the sphere of action of the organ of Comparison, it is necessary to take into consideration the duties performed by its auxiliaries, lest it might appear that the scope of its influence was expanded beyond its natural bounds. For, although metaphors and similitudes are the offspring of

this faculty, their brilliancy will depend upon the supplies afforded by Eventuality and the gorgeous colouring of superior Ideality.

In all those writers and speakers who are prone to enforce their point by arguments founded on analogy the organ of Comparison is strikingly developed. Counsel at the Bar, distinguished for their readiness in adducing cases in point to illustrate and confirm their pleadings, have the same part of the forehead also large. Wits, famous for their ludicrous play upon words, have all possessed a large organ of Comparison. Its efficiency in these respects, however, is necessarily based upon well developed organs of Eventuality, Individuality, and Language. Such was eminently the case in Curran, Horne, Tooke, and Sheridan, according to their casts from nature. And in the busts and portraits of Canning these organs with that Comparison are very large. In the portraits of Thomas Hood and the Reverend Sydney Smith the organ of Comparison is conspicuous. The following is a marked instance of Sydney Smith's readiness in applying the faculty of Comparison in a ludicrous manner. A clergyman of wit and learning told me himself that Sydney Smith, on meeting him in London, after a long absence, asked him how he was situated in the Church. He replied, "I am like the Colossus of Rhodes, for I have one leg in Ireland and the other in England." "How so?" asked the canon of St. Paul's. "I have a small living in Armagh and a Lectureship here at Bow," was the reply. "Oh!" said "Sydney the Witty," "I wish you had a third footing in Scotland, and then you would be like a Manx halfpenny." This reducing of my friend from the gigantic pedestal, upon which he had humorously placed himself, to the dwarfish dimensions of the singular three-legged

emblem that distinguishes the copper coin of the Isle of Man, is ludicrously witty.

What a mirthful and striking example of the truth of the old adage, which was so often on the lips of the Great Napoleon, during his disastrous retreat from Moscow : "From the sublime to the ridiculous there is but one step !" The late celebrated orator and statesman, Lord Plunkett, was endowed with marvellous power in descrying remote analogies in order to throw a flood of light upon his profoundly logical discourses. This power he was fond of displaying in a ludicrous garb.

When he and Charles Kendall Bushe were at the Bar there happened to be in the Court of Chancery a clerk of the name of Morris, who was a great fop in his mode of dressing. On one occasion during the temporary absence of the chancellor, there happened to enter the court an eminent scrivener of the name of Moore. Bushe, on the instant, asked Plunkett why that court was like Wales. "I give it up," was the reply. "What," said Bushe, "don't you see Beau Morris?" "To be sure," said Plunkett, "you are quite right, for there is Penman Moore in the distance." His tendency to exercise his abounding sense of remote analogies sometimes vented itself in playful, but not ill-natured, sarcasm. A gentleman was sitting with his lordship in his house, at Stephen's Green, on a Sunday morning, when his son, who was then Vicar of Bray, entered the drawing-room to bid his father good morning. "Where are you going now?" said Plunkett. "To preach," said the vicar. "To Bray, my son means," said Plunkett, in a playful manner, turning to the visitor.

In the mask of Dean Swift, taken immediately after death, there is a large development of the organ of Com-

parison, and those of Individuality and Eventuality are of immense size. But yet he does not seem to have taken pleasure in indulging in a ludicrous play upon words, though his organ of Language was also very large. He was, however, copious in his use of similitudes that presented images which were studiously sought for in objects, which, owing to the inefficiency of Ideality, were naturally lowly and sometimes indelicate, but ludicrous in the extreme, from his rare style of introducing them. In his "Tale of a Tub" he says, "We of this age have discovered a shorter and more prudent method to become scholars and wits, without the fatigue of reading or thinking. The most accomplished way of using books at present, is twofold—either first to serve them as some men do lords, learn their titles exactly, and then brag of their acquaintance; or, secondly, which is indeed the choicer, the profounder, and the politer method, to get a thorough insight into the index, by which the whole book is governed and turned like fishes by the tail. For to enter the palace of learning by the great gate, requires an expense of time and forms, therefore men of much haste and little ceremony, are content to get in by the back door. For the arts are all in a flying march, and therefore more easily subdued by attacking in the rear. . . . Thus men catch knowledge by throwing their wit on the posteriors of a book, as boys do sparrows with flinging salt upon their tails. The human life is best understood by the wise man's rule of regarding the end. Thus are the sciences found, like Hercules' oxen, by tracing them backwards. Thus are old sciences unravelled like old stockings, by beginning at the foot."

A large organ of Comparison, supported by salient intellectual organs of proportions the most harmonious

that can well be imagined, and crowned by that of Ideality, of superior dimensions, with a noble development of the moral and religious organs, as is manifested in his portraits by Reynolds and Romney, enabled Edmund Burke to surprise and charm the world by the transcendant beauty and sublimity of his metaphors. His description of the beautiful and unfortunate Marie Antoinette is so fine an example that I am tempted to transcribe a portion of it, as a necessary contrast to the foregoing similes of Swift.

“It is now sixteen or seventeen years since I saw the Queen of France, then the Dauphiness, at Versailles, and surely never lighted on this orb, which she scarcely seemed to touch, a more delightful vision. I saw her just above the horizon, decorating and cheering the elevated sphere she just began to move in—glittering like the morning star, full of life, and splendour, and joy.” And again—“I thought ten thousand swords must have leaped from their scabbards to avenge even a look that threatened her with insult.” The influence of the faculty of Comparison is beautifully displayed in the following passage—

“But now all is changed. All the pleasing illusions which made power gentle and obedience liberal, which harmonised the different shades of life, and which by a bland assimilation, incorporated into politics the sentiments which beautify and soften private society are to be dissolved by this new conquering empire of light and reason. All the decent drapery of life is to be rudely torn off, all the superadded ideas furnished from the wardrobe of a moral imagination which the heart owns and the understanding ratifies as necessary to cover the defects of our naked, shivering nature, and to raise it to

dignity in our own estimation, are to be exploded as a ridiculous, absurd, and antiquated fashion." And again, "nobility is a graceful ornament to the civil order, it is the Corinthian capital of polished society." There is one passage more which evinces Burke's faculty of Comparison in a more appalling and, therefore, according to his own theory, a more sublime aspect. It is this—"Having terminated his disputes with every enemy and every rival, who buried their mutual animosities in their common detestation against the creditors of the nabob of Arcot, he (Hyder Aly) drew from every quarter whatever a savage ferocity could add to his new rudiments in the arts of destruction, and compounding all the materials of fury, havoc, and desolation into one black cloud, he hung for a while on the declivities of the mountains. Whilst the authors of all these evils were idly and stupidly gazing on this menacing meteor which blackened all their horizon, it suddenly burst and poured down the whole of its contents upon the plains of the Carnatic. Then ensued a scene of woe, the like of which no eye had seen, no heart conceived, and which no tongue can adequately tell. All the horrors of war before known or heard of were mercy to that new havoc. A storm of universal fire blasted every field, consumed every house, destroyed every temple."

Why this vast dissimilarity of form and feature between the similes and metaphors of these two great geniuses? The disparity is attributable to this, namely, that the form of Burke's head was phrenologically indicative of a mind imbued, vivified, and adorned in a transcendent measure with a poetic sense of the beautiful in everything, whether moral or physical, and that Swift's was in a remarkable degree wanting in the same cerebral

characteristics which are accompanied by that "unbought grace of life" which so profusely adorned the thoughts of Burke.

Amongst the distinguished poets of the present century there is no one more remarkable for the luxuriant abundance and poetic brilliancy of his metaphors and similes than Thomas Moore, and there is hardly any one can be met with in whom there is to be found so salient an organ of Comparison. And this was supported by large organs of Individuality, Eventuality and Language. One stanza from a charming song of his "Love's young dream" will serve to illustrate Moore's proneness to adorn the vivid creations of his fancy with beautiful and exquisitely appropriate metaphors and similes.

" Oh, that hallowed form is ne'er forgot
Which first-love traced,
Still it lingering haunts the greenest spot
On memory's waste.
'Twas odour fled, as soon as shed,
'Twas morning's winged dream,
Oh, 'twas a light that ne'er can shine again
On life's dull stream."

Such great writers as love to convey their fine imaginings through lengthened allegories are endowed with a dominant faculty of Comparison. The great poet Spencer was an extraordinary instance of it. And in the portrait of him, engraved by Virtue, the organ of Comparison is large; though the harmonious blending of all the organs of his high and expanded forehead prevents the appearance of any signal isolated prominence in that of Comparison. Nothing can surpass his power in this respect, as it is displayed in his marvellous description of the affections and passions of the human mind in the

Masque of Cupid before the representative of Chastity in the "Fairy Queen." The "Comparative sagacity" of Gall is there shewn in perfection. The aptness of his similies is well exemplified in his story of the giant reformer of the world, where he says—

"Therefore the vulgar did about him flock,
And cluster thick unto his leasings vain,
Like foolish flies about a honey-crock,
In hope by him great benefit to gain,
And uncontrolled freedom to obtain."

And in his description of Belphæbe where he says in a strain more soft and musical—

"Her face so fair as flesh it seemeth not,
But heavenly portrait of bright angel's hue,
Clear as the sky withouten blame or blot,
Through goodly mixtures of complexions due;
And in her cheeks the vermeil red did shew,
Like roses in a bed of lilies shed,
The which ambrosial odours from them threw,
As gazer's sense with double pleasure fed,
Able to heal the sick and to revive the dead."

In a print published some years ago on the continent from a picture, by Titian, of Ariosto, the organ of Comparison is very large. And it is large in Enea Vico's little profile of him from the medallion by the poet's cotemporary, Doni. The organ is also large in the portrait of Bunyan, whose *Pilgrim's Progress* is a surprising instance of genius in giving birth to allegorical allusions and delineations which wear the appearance of reality. But it should be observed that those who evince a marked proneness to personify abstract ideas, have also Eventuality and Individuality prominently developed. For in proportion to the force and activity of these will be the fertility of

Comparison. They alone are capable of supplying it with materials from which it can extract its delightful sustenance, as the flowers of the meadow and the garden plenteously afford to the honey-bees the substance without which it would not be possible for them to produce their delicious food.

Comparison would seem to be, *par excellence*, a faculty essential to the successful poet. And it is found, accordingly, that the centre of the upper region of the forehead is full and rounded in all poets of eminence. It, as well as Ideality and the organs of the observing and combining or harmonizing faculties, is exceedingly salient in the antique bust of Homer. And though we cannot place reliance upon its authenticity as a representation of a mighty genius, whose very existence is stoutly denied by some sceptical critics, yet how curious is the coincidence between the mental attributes of the man and the form of his head, which is such as Gall and Spurzheim would have expected to find it. In Pindar and in Theocritus, Æschylus, Sophocles, and Menander it is very large; and also in Euripides. In the mask, from nature, of Tasso it is very large. The case is the same in all poets who occupy a niche in the choicest shrine of the Temple of Fame, whose portraits I have carefully examined.

CAUSALITY.

THE names given by Gall to the faculty which is found, by vast experience, to reside in the organ which has its seat on each side of Comparison, are these, "metaphysical depth of thought," "aptitude for drawing conclusions." These terms are adapted to convey an adequate notion of the true scope of its functions, and Gall used them, because he invariably found in the portraits and busts of all men renowned for the mental qualities above named, a remarkable fulness of the forehead at the place already described. In Cicero, Socrates, Bacon, Galileo, and Liebnitz he found this to be the case. And in a cast "moulded on the head of Kant after his death," he says, "It was with a lively pleasure that we saw the extraordinary prominence of the two frontal parts which I have pointed out." He found it still larger in Fichte, and it was also characteristic in the forehead of Shelling. Gall in allusion to the Kantian philosophy says, "It seems to be proved by experience that so long as man is condemned to inhabit this earth, there is no advantage to be drawn by him from the speculations of this sublime philosophy, and, consequently, that we shall do well to confine ourselves within that sphere of activity which the world of realities offers us." Gall had no sympathy with the transcendental metaphysics. His wisdom was clear, obvious, and practical, and capable of being

comprehended by men and women of ordinary capacity. But how great must be the haze which eternally envelopes the light left by the broad and vivid intelligence of Kant to illumine the ways of his followers, when we find his enthusiastic admirer, the enlightened and eloquent De Quincy, saying that even Coleridge, who studied Kant with great assiduity, was yet incapable of conveying an adequate notion of Kant's doctrine. But the existence of a doctrine which seems to be so incomprehensible, even by one of its most gifted students, shews clearly that the reflective faculty, which Gall calls "aptitude for drawing conclusions," will act vaguely and speculatively when the premises on which it rests its conclusions are merely conjectural, and not founded on the observation of things external to our own minds, whether such things be physical or mental. It is certain that the greatest minds have floundered in their speculations on the philosophy of mind, because their premises were drawn from their own consciousness, without being aware that individual consciousness must be as diversified as the various, and often totally opposite, dispositions and talents of men.

Very different has been the manner of Dr. Gall as we have seen, and how widely different is the result. All that he has bequeathed to us is precise, perspicuous, positive, and harmonious. And the great patriarch of philosophers, Bacon, says, "It is the harmony of a philosophy in itself which giveth it light and credence, whereas, if it be singled and broken, it will seem more foreign and dissonant."

Individuals endowed with a large organ of Causality, desire to find out the cause of everything. Some, according to the predominant characteristics of their intellectual

and moral organs, will search, with a scrutinizing glance, into the cause of moral and political phenomena, whilst others spend their lives in investigating the cause of the action of the wondrous things which constitute this marvellous universe of matter. The very large organ of Causality in the forehead of Edmund Burke was biased in the noble course it took through the wide and tumultuous sea of politics in order to discover the true and salutary foundation upon which public morals should be reared, by the kind of information which his fine observing powers, clothed as they were in a dress furnished by the "wardrobe of a moral imagination," suggested. This information of his was certainly vastly comprehensive and minute, for, as was eloquently said by Grattan, "He read everything, he saw everything, he foresaw everything." But yet the tendency of his great perceptive faculties was not such as would instinctively, and through choice, prompt him to give his time to the pursuits of geometry, and the working out, for practical ends, the raw materials hidden in the secret recesses of the earth, or displayed in all the expansive magnificence of the celestial spheres.

What a disparity between the direction given by Burke to his paramount capacity for the investigation and discovery of causes and that taken by that prodigy of mathematical genius, Isaac Newton. And how widely distinct also from Burke's procedure was the course pursued by James Watt, the great mechanical inventor and improver of engines, which have already wrought such wonderful changes in the moral and physical aspect of things.

Now, these three great men possessed large organs of Causality. But so protuberant were those of Individuality,

Locality, Size, weight or sense of Resistance, Order and Number in two of them, that, like Handel in regard to music, and Tasso to poetry, they were irresistibly drawn to cultivate geometry, astronomy, and mechanics. In Newton the organ of the Faculty of Number was stronger. In Watt that of Constructiveness seemed to be in the ascendant. Their faculty for investigating causes was chiefly exercised in the wide domain of physics, Burke's in the more comprehensive and intricate region of moral, social, and political science, and always with a view to its wise and salutary application to the furtherance of human happiness.

The intellectual organs of Burke were remarkably large, and so harmoniously interwoven with one another that their mutual influence was in the highest degree effective in eliciting the grandest efforts of which each was capable. But they were not fitted to confer on their possessor the power of outstripping every competitor in astronomical and mechanical pursuits, like those of Newton and Watt, for the tendency of their faculties led these great men to follow subjects of a more special character. He far surpassed them, however, in the kind of genius which adorned the great mind of Bacon, whom he approached, in the opinion of Hallam, the nearest of all modern writers.

In Faithorne's fine engraving of Hobbes, a man eminent as a writer on mathematics, philosophy, and politics, the organ of Causality is conspicuous even in a forehead of great expansiveness. But the organs of the pure mathematics are not so decidedly salient as they are found to be in the mask of Newton, in which they stand out in unrivalled luxuriance. And, consequently, his great faculties were not, like Newton's, almost exclu-

sively devoted to mathematics and astronomy. Neither was success commensurate with his efforts in mathematics, for, as Faithorne's print indicates, geometry was not his forte.

It is obvious, when contemplating such examples, as have been already adduced, that Causality is not, in its action, confined to metaphysical disquisitions or casuistical speculations, although it imbues the mind with a strong bias in that direction, such, for instance, as characterised the fine intellect of Godwin, in the cast of whose head the organ of Causality is very large.

In Cobbett, on the contrary, Causality is moderate, both absolutely and relatively, and, as has been stated elsewhere, his genius was entirely the reverse of speculative. Indeed, he says himself, in his "Plan of Parliamentary Reform," "It is to the effect of anything that I look at, and not at the theory and principle from which it proceeds. These may be too nice, may lie too deeply hidden from my perception, but the effects I can see and am able to estimate." How much this mental tendency of Cobbett differs from that which suggested and moulded into expressive forms what Shelley calls the "Sublime Causistry" of Godwin. In the forehead of Richard Brinsley Sheridan, more indicative of acuteness than profundity of intellect, of eloquent affluence, of pointed illustration than of abstruse metaphysical reasoning, the organ of Causality is not a characteristic feature. It was larger in Curran, but in neither of them was it to be compared to the paramount though not disproportioned size of the same organ in the mask and portraits of Edmund Burke.

A great development of Causality was a characteristic of the fine head of the great lawyer and charming orator,

Lord Mansfield, as may be seen in the lifelike bust of him by Nollekens. In a fine cotemporary mezzotint engraving of Bolingbroke it is also remarkably salient. Were it not so in him he would never have given occasion to Pope, in whose own head the organ of Causality is singularly well-developed, to call him "his guide, philosopher, and friend." The organ is large in Voltaire and in Benjamin Franklin, as their busts by Houdon testify. In Gibbon's portrait by Reynolds, engraved by John Hall, the organ is very large, and great was his talent in sifting and discriminating historical evidence. Such is also the case in a small print engraved by Ravenet, of David Hume, who possessed a genius remarkable for metaphysical subtlety. Causality is relatively very prominent in the portrait of Dr. John Brown, the author of the Brunonian system of medicine, a man who was carried away by a propensity to extravagant generalization. This is a fault which is likely to mar the success of the inventions and projects of all those in whom the great size of this organ is accompanied by inadequately developed organs of Individuality and Eventuality, as was the case with Dr. Brown. It was the ample development of these in the forehead of Edmund Burke which prevented his discriminating intellect from falling into speculative courses to which his paramount eagerness to find out the cause of everything that comes within the sphere of human conduct might very probably lead him. And it is to the less favourable development of these two organs in the fine reflective forehead of Godwin that his extravagant and unstable political speculations are to be attributed, and coupled, as they undoubtedly were in him, with a singular absence of reverence for old established manners and institutions, and a self-reliant confidence

in the wisdom of his plans for bringing about the speedy fulfilment of his own benevolent aspirations, he was certain to enunciate startling dogmas in politics and religion (see Plate 1). Burke's reasoning took its form and complexion from sentiments enlightened by inspirations of a totally opposite character.

The faculty now under consideration enables man to see fitness, to trace effects up to their causes as well as to foresee the effect which a certain manner of acting is calculated to produce; in other words, to detect consequences which are likely to follow certain premises. It prompts us to ask why?—from its inherent love of tracing things through successive ascending steps from the obvious and immediate cause to the ultimate one.

But is it to be supposed that, because Causality prompts us to ask why, it is also to be deemed the faculty that really does ask the question? Or is it more correct to suppose that Eventuality, which is desirous of knowing the acquisitions of all the faculties, to know everything, in fact, asks the question and that Causality serves to solve it? For as the former faculty wishes to know everything, it is reasonable to think that it wishes to know the cause of everything, since the cause itself is something. But still, its desire to know the cause of all things will be proportioned to the development of the organ of Causality. We have seen an instance of this in the admission of Cobbett, whose predominant Eventuality was not usually prompted by his moderate Causality to enquire into causes; whilst the comparatively moderate organ of Eventuality in Godwin, taking its tone from a singularly dominant Causality, was always anxious to learn the cause of everything to which he gave his attention.

A person of good abilities, in whom this organ is large,

will be capable of displaying fertility of mental resources in a far higher degree than another, of even superior general abilities, whose Causality is less vigorous and active. It is a most important organ; and it takes an active part in all human arrangements. It is sometimes very large when Comparison is moderate in size; and sometimes very moderately developed when Comparison is exceedingly salient. To be assured of this, it is only requisite to compare the casts from nature of Curran, Horne Tooke, Thomas Moore, Sir Walter Scott, and James Hogg, the Ettrick Shepherd with that of the original, imaginative, but unhappy painter, Haydon. Comparison was paramount in the five first-named distinguished men, whilst the remarkable saliency of Causality afforded a striking contrast to the moderate development of Comparison in the fine expanded forehead of Haydon. But Haydon was also, relatively weak in the organ of Eventuality. And it is to these deficiencies combined with a rather small organ of Caution, and very large ones of Love of Approbation and Hope, with an inadequate development of Firmness, that caused him, notwithstanding his superior talents and genius, to suffer his worldly affairs to fall into irretrievable ruin. Active and well developed organs of Eventuality and Comparison are important ingredients in that most useful of mental attributes, common sense. In this attribute poor Haydon was sadly deficient. How widely different was the development of these two organs in the cast from nature of his friend, David Wilkie! In him they were large and prominent. And unlike Haydon, Wilkie never lost sight of passing events, as they were likely to affect him; nor did he fail to use a very influential faculty of Comparison in weighing contingencies, so as to enable a

competent, though not dominant Causality, to descry legitimate results. In this Haydon failed, notwithstanding his very large and predominant organ of Causality. And, indeed, the failure was, in a great measure, owing to this inharmonious predominance. Fertile in devising projects he certainly was, but apt to overlook things which were likely to start up, on some inconvenient occasion, in the shape of insurmountable obstacles to their successful accomplishment. The form of Haydon's head was far more indicative of inherent original poetical imaginings than Wilkie's. But his relatively inefficient organs of Eventuality and Comparison rendered him less capable, by far, than Wilkie, of seeing through the characters and manners of men; because it was not a characteristic feature of his mind to give his attention to what was common and incidental in the circumstances of life, a feature which shone out in all the bright truth of nature in Wilkie's best productions. Witness his exquisitely charming picture of "Duncan Grey."

I have drawn this contrast between two men of genius in order to shew the extent of the influence of the reflective organ of Causality; and how far it is incapable of seeing results without the assistance of its potent auxiliaries, Comparison and Eventuality.

When Causality predominates in a forehead which is large, and in all respects, finely balanced, with a good organ of Language, you will have the orator, who is able to confound and demolish the arguments of his opponents by his great power as a logician. Such, in a very unique degree, were the characteristic features of the lofty and broad forehead of the late Lord Plunkett. And this faculty was in him so powerful that the *Times* likened his oratory to a sledge-hammer which completely crushed

his antagonists. When Lord Carnarvon said that, compared to Canning, all the orators of the day were pigmies, Brougham, a kindred soul, said he was sure the noble lord never could have heard the Lord Chancellor of Ireland. This power was so eminently conspicuous in Plunkett, that Daniell Whittle Harvey, who was himself a first-rate orator, told me that Plunkett was decidedly the greatest orator he had ever heard. That so great was his fertility in mental resources, he had the power on the instant, and as it were instinctively, of strengthening his argument, by placing his subject in new lights, which were issuing, in rapid succession, from the deep recesses of his capacious understanding, and flashing so brilliantly that what seemed before obscure was rendered as clear as the light of a summer's day. And, moreover, that these were lights which no one of all his gifted auditors could have imagined, and yet nothing could seem more simple and natural than their appropriateness.

In oratory such is the effect of a very large organ of Causality, when it is supported by a fine development of all the other organs. It is large in the broad and beautifully shaped forehead of O'Connell, whom Lord Jeffrey, one of the best of judges, pronounced, in a short letter to his friend Lord Colburn, from the House of Commons, to be the first speaker in Parliament—"that he had all the force and point of Demosthenes with a far greater range of power." And his great fertility in devising means to bring his plans to a successful issue, a talent of which Causality is an essential ingredient, was incontestably proved, all through the difficult and often hazardous course, which he was led by the circumstances of his native land to pursue.

In unexpected and trying emergencies Causality is an

active element of that most valuable compound faculty called Presence-of-mind. With this faculty O'Connell seemed to be highly gifted. A rare and pleasing instance of this occurred at the "Crown and Anchor," in the Strand, when Lord Brougham was chairman of a meeting, convened for the purpose of bringing about a removal of the stamp duty on newspapers. This meeting was anxiously waiting for O'Connell, when a shout outside was heard, and the great agitator was the next instant borne to the platform, almost on the shoulders of the crowd. Brougham, who, at that moment, was engaged talking to a lady, who sat on his left, had his right hand resting on the arm of his chair. O'Connell instantly went up to the chair and laid his hand upon the back of his lordship's. Brougham turned rapidly round and shook him cordially by the hand, O'Connell clasping Brougham's between both his own. Here was presence of mind genially manifested, for these two great men had had a serious falling out some time before, which gave rise to much bitter objurgation on both sides, and this was the first time of their reunion. Had it not been for this seasonable and unexpected renewal of good will, a feeling of coldness and discomfort would have damped the spirit of the principal actors on that day. But it is in the next move on the board that O'Connell's presence of mind was chiefly shewn on this occasion.

It happened that the crowd in the body of the great hall were not satisfied with the sight they had of the platform, and to remedy the inconvenience, insisted that every speaker should mount upon a chair before they would listen to him. Even Lord Brougham himself, though he was president, was compelled to comply with their vociferous demands. The same cry of "Get upon

the chair," was vigorously raised when O'Connell came forward to harangue the multitude. But he, having the fear of the breaking down of monster meeting platforms before his imagination, shook his head, as a sign of refusal. Still they boisterously and repeatedly insisted, and he as often shook his massive head, with its multifarious and buoyant contents. At length, when further resistance seemed perfectly hopeless, the benevolent and venerable Dr. Birkbeck was handing a frail-looking chair to O'Connell, when the latter waved his hand backwards in token of refusal, saying, at the same time, in the sonorous and melodious accents of his powerful soft harmonious voice, "No, my good friend, I'm for the floor. I don't wish to be raised above the people. And, when I see such a number of goodly faces smiling before me, I feel that I shall never repent of that determination." "Don't mind the chair," was shouted from all sides. At that instant, presence of mind again came instinctively to his aid. Lord Brougham had but recently strided triumphantly from the ranks of the Commons, and lest these words should give rise to comparisons unpalatable to his lordship, O'Connell proceeded in a strain of eloquent and well-deserved panegyric to applaud the institutions which opened a way for such a distinguished friend of the people, and so pure and disinterested an administrator of law and equity to the highest seat near the throne. Brougham was then Lord Chancellor.

But yet the organ of Causality was still larger in Plunkett's forehead than in O'Connell's.

To shew that the upper or reflective region of the forehead lying between the organs of Mirthfulness, is composed of two organs it is only necessary to compare the mask from nature of Thomas Moore, in whose forehead

the central portion—Comparison—greatly predominates over the lateral, with the fine and scrupulously modelled bust of Lord Plunkett, by Christopher Moore, in which the lateral parts—Causality—are relatively protuberant, but yet not so as to overshadow Comparison. Or let the portraits of Charles the Fifth, of Spain, whose subtle and capacious mind never suffered him to hazard any important undertaking, until he had first closely investigated the effects that would be likely to ensue from causes which the changeful state of circumstances were constantly bringing before him, with those of Francis the First, and how vast will the disparity be found to be in the upper region of their foreheads! It was this strong tendency to trace effects to their causes, and causes to their effects, that rendered Charles so superior to his rival Francis, who was generous, chivalric, open, but comparatively unreflective. Again, let the pictures and busts of Napoleon and of Wellington be compared with those of the late Duke of York, by Nollekens and Lawrence, and the contrast in the development of Causality will be found to be of a very decided character. In the fine print by Delft, of William the First, Prince of Orange, the wise and youthful chosen adviser of Charles the Fifth, the organ of Causality is conspicuously prominent. It is, also, extremely large in the portraits of Philip Melancthon. And it is extraordinarily large in the exceedingly massive forehead of Dr. Gall, whose precocious desire to know the cause of things which he could not understand, elicited the first sparks of that light which was destined to illumine and entirely to dispel the dark shadows which for ages had concealed the true and fair form of mental philosophy.

ALIMENTIVENESS.

IT was long ago surmised by Spurzheim and other leading writers on this science that the cause of the desire for food lay in the brain and not in the stomach, and certainly facts seem to confirm the validity of the conjecture; for children born without a brain, do not turn instinctively, like perfectly formed new-born babes, to the mother's bosom. Nor can the brainless infant be got to suckle, even when placed with the nipple in its mouth, though he moves his lips, owing to the sensation of contact; but not from any instinctive effort of the will.

Many years ago there occurred in one of the hospitals of Paris a case confirmatory of this general assertion.

Now, since that brainless new-born infant had a fully-formed and apparently healthy medulla oblongata, with a pneumogastric nerve proceeding from it, that nerve, which imparts or conveys the digestive function to the stomach, through the glands of the gastric juice; and out of which body also proceeds the trigeminal nerve, a portion of which serves as the nerve of taste. Since such is the case, and as brainless children have no appetite for food, it follows that appetite for food does not depend either upon the stomach, or the palate, or on the medulla oblongata. Where then, are we to look for the source of the desire for food? Where but in the brain? And

Phrenology seems to have afforded a clue to its special habitation, which has been so long and so illusively sought for.

Some forty years ago there was at Amsterdam a full grown idiot, who did not seem to have any craving for food; and when food was presented to him, he made no effort to feed himself, but he would eat when fed by another, and he digested what he ate, like other people; but whether he relished his food or not I have no evidence on which to form any opinion. But this is on record, that his volition never led him to seek for food. This poor creature lived to the age of twenty-five years. He was exhibited about various parts of the continent, as a sort of nondescript, in the same way as the so called Astec children were paraded here in London not many years ago. But with this difference, that the unhappy idiot of Amsterdam was pretended to be something not quite human; while the Astecs, complete idiots also, were said to be the representatives of an extinct race. An assumption which I was the first to contravert at the Ethnological Society, just before they were shewn in public.

We see, then, that the poor idiot of Amsterdam, unlike this brainless child, with his spinal marrow and medulla oblongata only, could receive and perhaps enjoy food, though he wanted the power of looking for it. But the idiot was endowed with all that part of the nervous centres which were found in the acephalous being; and he, moreover, possessed a brain. An exceedingly small and imperfectly shaped one to be sure it was; but yet it was a brain. And as he had some appetite for food, and as brainless children, though otherwise completely organized, have seemingly, at least, no appetite for food, it follows, as evidence the most conclusive, that

in the brain itself is to be found the true source of the desire for food.

Next comes the question as to the situation of the portion of nervous matter which gives rise to this propensity. And it must be conceded that it cannot reside in the upper and frontal regions of the brain ; since, in this poor idiot's diminutive head there was palpable evidence of the absence of these parts. Yet, a like deficiency seems to exist in the lower animals, that are almost constantly feeding ; but their instincts, which are perfect, owing to the normal completeness of their brains, direct them to the food which is wholesome for them. But, in the poor idiot's case, the total want of the portion of the brain, in which the intellectual organs lie, precluded that luckless creature from the power of choosing his food, or even of thinking that it was necessary to the support of his existence. It must, then, be in the base of the brain, which even this idiot possessed, but yet in very scanty and imperfect measure (see diagram). And as it is clear from the instances already adduced, that desires have their source in the perfectly organized convolutions of the brain ; and as those convolutions are all appropriated to the various and well-defined functions of the human mind, it remains for us to see how far evidence tends to prove that the desire for food has its organ in convolutions, which are certainly quite distinct from any one of those which are essential to the manifestation of the other mental faculties.

Experience founded on a careful observation of facts emboldens me to aver it, as my sincere conviction, that those convolutions which form part of the middle lobe of the brain, lying immediately in front of the organ of Destructiveness, constitute the organ which has been called Alimentiveness and also Gustativeness by Combe and other writers.

The natural appropriateness of this situation goes a good way to shew the strong probability of its being the organ we are in search of. For it lies in close contact with the organs of Acquisitiveness, Secretiveness, and Destructiveness. And as there is no desire, the gratification of which is so absolutely indispensable to the preservation of life, so it is placed near those organs, which are best calculated to minister to its irresistible cravings. "Hunger will break through stone walls." Yes, but that is done through the agency of Destructiveness, the destroyer. The starving creature, endowed, perhaps, with better inclinations, will purloin; but it is by means of Acquisitiveness, excited by the overbearing irritation of its neighbour Alimentiveness. and how often do we witness to what an extent Secretiveness is excited in animals pinched with hunger. In beasts of prey the excitement raised in these three organs by hunger is uncontrollable.

Such, then, would seem to be the natural position of this organ. But this seeming assumes the proportions and substance of reality when experience teaches that where voraciousness characterizes the appetite of a man, there will also, and invariably, be found a swelling or protuberance of the skull immediately in front of the organs of Secretiveness and Destructiveness,—a fulness not to be discerned in the heads of persons, who are moderate eaters and temperate with respect to diet.

Out of a large number of corroborative instances of that fact which have presented themselves to me in society, I could notice several, but it will be better to confine myself to a few cases which can at any time be tested, as there are casts to verify them.

The criminal Greenacre had a very protuberant development of this part of the brain, and his last act before

his execution was to write a letter to Alderman Humphrey thanking him for the generosity he had shewn in having him plentifully supplied with good food during his confinement in Newgate. In the cast of Rush the same part is very large, and the last instance of the activity of his grovelling propensities appeared in a letter written by him the evening before he was hanged in order that his pork dinner should be made as luxurious as possible, and he particularly requested that the pudding should have plenty of suet in it. One can hardly imagine how in his unhappy condition he could have an appetite for anything, even for viands the most delicate, not to speak of food so gross as that he was longing for. But perhaps the most singular case of inordinate love of good and abundant feeding occurred in Dublin some years ago, in the person of John Delahunt, already noticed for the excessive smallness of the organ of Conscientiousness in his head. We have seen that for the sake of money, as an informer, and still more for abundant feeding, he did not scruple to murder an innocent child and then swear that he had seen its sick mother do the foul act. And it is worthy of note that during the doleful interval of three weeks which passed between his conviction and execution he ate so abundantly, that from being a slight youth he became fat and ruddy. Now the organ called Alimentiveness projects in the cast of Delahunt's head like the segment of the upper end of a good sized hen egg. There were two workmen in the late Mr. Deville's employment who were enormous eaters. In their heads this organ was extremely protuberant. There was also in his collection the cast of a bushranger who was hanged at Sydney with five other desperate convicts for murder, in which the organ was of immense size, and it was

surprising to read the detailed account of the enormous quantity of food he devoured on the very morning of his execution—food supplied at his own urgent request.

It has lately been shewn from authentic historic records that the Great Charles the Fifth, of Spain, was morbidly disposed to indulge, beyond all reasonable bounds, even to the destroying of his health, his unconquerable love of eating. And certainly, it was with a lively feeling of satisfaction I beheld the remarkable fulness of the organ we are now considering in a fine marble bust of that extraordinary man, which was in the collection of the late Lord Northwick. Many other instances, corroborative of the foregoing ones, could be adduced, but it would be tedious to multiply them.

How unlike to that of Charles was the development of the same part of the head in the finest engraving of St. Ignatius Loyola, who led a life of the strictest abstinence. This picture is a striking indication of the motives which first prompted him to follow a life of privation and fasting, as well as of the facility with which he was enabled to continue his ascetic course of living. For the remarkable smallness of the organ of the Love of Eating precluded any likelihood of a sense of irksomeness arising which might tempt him to falter in the plenary carrying out of his extraordinary undertaking.

Exclusive of the evidence, both physiological and craniological, which has already been laid before the reader, there is an anatomical fact, which, as an auxiliary, may, with advantage, be brought up as a force in reserve to help the main body of facts to maintain their ground.

It is a striking phenomenon in the natural history of the cerebral nerves, that they all, with a single exception, take their rise in the medulla oblongata, and in its

immediate vicinity, as is the case with the optic nerves, which arise in the quadrigeminal bodies. The nerve of the sense of smell forms that exception, for its fibres can be easily demonstrated as taking their rise from the very heart of the convolutions which compose the organ of Alimentiveness.

Through this connection of parts one may account for the fact that, in passing before dinner over the savoury vapour issuing from the kitchen of some leading London club-house, the salivary glands sometimes pour out in abundance that secretion which is essential to the palatable enjoyment of food, and a craving for food is generated. Now, the Olfactory nerve cannot directly convey its pleasant impressions farther than the object with which it is solely incorporated (and that object, as we have seen, consists of the convolutions which are seated in front of those of Destructiveness), consequently, that nerve is not the proximate cause of the excitement of the salivary glands. But it is the first or remote cause, for it communicates to the organ of the desire for food a sensation which is capable of exciting its natural wants, and that organ, in its turn, communicates its excitement to the gland of the great trigeminal nerve, which lies beneath it, and in close contact with it on the base of the scull, some way behind the back of the bony orbit. This trigeminal nerve divides, at this place, into three branches, which communicate in the face, and on their passage to it, with other cerebral nerves; and it, moreover, furnishes the nerve of taste or the gustatory nerve. In this way it transmits the excitement, communicated to it by the organ of Alimentiveness, to the nerves of the mouth and tongue, and thus are the salivary glands brought to pour out the saliva which, with electric speed, followed the

contact of a savoury vapour with the nerves of the sense of smelling. The close connection, again, of the trigeminal nerve, at its origin in the medulla oblongata, with the pneumogastric, or the nerve which promotes digestion, by exciting the glands that supply the gastric juice, serves to produce simultaneousness of action in all these parts.

Here is presented to us a chain of phenomena, following each other in rapid succession without displaying a single broken link, and all of them traceable to the convolutions of the brain, which form the anterior portion of its middle lobes. That the inherent function of this part is an instinctive desire to take food, is an opinion based upon positive and negative evidence of a palpable and convincing kind. And it is, moreover, a striking coincidence in favour of the correctness of the view taken as to this matter, that the convolutions in question are found to lie amongst those which are essentially needful for the preservation of life. But, occasionally its activity is so craving, and so productive of enjoyment, that individuals, even of superior intellects and noble dispositions, have allowed themselves to rush headlong into the revolting embrace of swinish gluttony.

CONCLUDING CHAPTER,

ON THE PRACTICAL APPLICATION OF THE SCIENCE TO EDUCATION, INSANITY, AND PRISON DISCIPLINE.

THE mind of man, then, is a compound of animal propensities, moral and religious sentiments, and intellectual faculties, and the proportion in which these mental qualities are awarded to mankind is infinitely diversified. To Phrenology alone is due the merit of having demonstrated the relative prevalence of any of these orders of faculties in any individual, and not only the prevalence of each order itself, but also of the special primitive faculties of which the order is composed. Some men are swayed by their animal nature, without sufficient moral control, and place happiness in present gratification without duly considering the mischief they are entailing upon themselves and others. Some again who are much higher in the scale of humanity, possess an amount of the moral sense sufficient to create a clashing of motives, strong enough to cause deep repentance for past transgressions, but yet inadequate to prevent their occasional recurrence. Others again are blessed with so fine an assemblage of moral sentiments that even their possibly strong animal tendencies are kept in subjection. While many a nobly-disposed man has forfeited much of his influence in the spreading of happiness, through the want of such an amount of the animal nature, as would be necessary to render him self-reliant and energetic enough to encounter difficulties and to overcome them. With a slight addi-

tional infusion of those valuable mental ingredients, self-reliance and courage to meet danger, such high moral endowments would be the instigators of conduct such as have immortalised the names of Fenelon and Sir Thomas More, while a little more of the animal propensities would be productive of an Epaminondas or a Washington.

The extremes to which these personal characteristics reach are well exemplified in the antagonistic dispositions of Luther and Melancthon. Could any earthly power or process convert the gentle, inoffensive Phillip Melancthon into the bold, turbulent, and abusive, but yet magnanimous Martin Luther, or the devout and amiable Charles Borromeo into the overbearing, irascible, warlike Julius the Second? As well might we hope to gather "grapes from thorns or figs from thistles." But though such characters can never become reciprocally convertible, yet their redundancies might, in the fitting season of youth, and by judicious training, be arrested in their progress, and their deficiencies invigorated, so as to render them active allies in the furtherance of good intentions.

As to the possibility of effecting such changes and of rendering them permanent, there is nothing so assuring as one simple fact, for the knowledge of which we are indebted to Phrenology. And that fact consists of the growth and diminution of the head, at special parts of it, according to the measure of exercise to which such parts have been subjected.

So many instances of this kind have been collected by the late Mr. Deville that it would be stretching incredulity to an unreasonable extent to disbelieve the fact. And seeing it to be true, can there be anything more

certain than this, namely, that Phrenology, so far from encouraging a belief in Fatalism, should be deemed the surest, because it affords the most palpable, evidence against its unconditional existence.

It is fated then that much improvement can be wrought in the faculties which we inherit from our parents, but it is also on the rolls of fate that few men are capable of becoming Fenelons or Washingtons, Cromwells or Napoleons. What Phrenology has done is to demonstrate the immediate cause of this. And should scrupulous churchmen still hang out the bugbear, Fatalism, to scare the uninitiated from their pursuit of this most useful science, are they not forgetful of the moral lesson conveyed to his disciples by their Divine Master in the following parables.

When He was desirous of making them understand that every one was to be held accountable for the full discharge of his duties, in proportion to the gifts he had received, without any further exaction, did He not speak the beautiful parable of the Talents? And when it was His wish to shew them that there were some persons, in whose dispositions His divine injunctions would never germinate, He brought the fact before them, in a form almost palpable to the sight, by means of the picturesque allegory of the Sowers.

Thus, it would appear, on divine authority itself, that not only are some individuals fitted by nature to attain to honours more numerous and various, if not more valuable, than others can reach; but that some are incapable of attaining to any, at least, that they have not within themselves the power of bringing into efficient exercise the scanty germs of worthiness, which have, perhaps, been awarded them.

With what perfect exactness these two parables accord

in spirit and in meaning with what Phrenology teaches ! It teaches that no earthly power could avail to cause an infusion of the humane, unassuming, gentle and angelic attributes of Fenelon's nature into the aspiring, audacious, domineering, and towering spirit of Richelieu ; or the jealous, malignant ambition of Robespierre, or the sanguinary and ferocious turbulence of Marat, into the minds and hearts of those noble and disinterested patriots, Robert Lee and Stonewall Jackson. And it is so for this reason—that the brains of these men presented diversities of form which were necessarily attended by differences of disposition, and which differences can be accurately measured by carefully comparing their portraits. Phrenology shews, also, that comprehensiveness of genius is bestowed upon men, not only in quantity, but also in kind. Where, for instance, is the earthly power that could convert a Spencer or a Milton into a Newton or a Descartes ?

In the face of this striking coincidence—of this obvious harmony between those parables of Scripture and the phrenological doctrines of the dependence of diversified mental gifts upon special forms of the brain, how can scrupulous religionists assume that this noble science tends to subvert Christian principles ? Whereas it is evident that Christianity has not, in any other branch of those sciences, which are universally accepted, so true and convincing an auxiliary. For what can be more conclusively subversive of the opinion, that Phrenology sanctions the doctrine of Fatalism, than the fact, that inborn dispositions may be vastly changed for good by the judicious and early exercise of their organs in the brain ? And since exercise is accompanied by growth of the organs, even in the adult periods of life—as has been proved through casts, taken of the same individuals, at various times ; and since augmented

size is accompanied by additional vigour, and as strong organs find pleasure in action, it is reasonable to expect that the change will be durable.

This objection, which has been so frequently and unconsiderately urged as being fatal to the doctrine, that the brain is the organ of the mind—fatal to it, not because the doctrine is false, for its truthfulness is demonstrable, but because the friends of religion thought that it clashed with the Christian doctrine—is obviously untenable. It has no foundation in the true nature of things.

As to the charge of materialism, so often urged against Phrenology, but little need be said in its refutation. For in the first place, it is not possible to say where, in this world, matter ceases to be present, although there are many active agents, which seem to us to be divested of the properties of matter. Can we, for instance, discern any thing material within bottles, one full of oxygen and another of hydrogen? Not at all. And yet by electric action these invisible and seemingly immaterial gases are instantly changed into that most important material—water. If then, water is matter, its constituents must be matter. Such secrets of nature are known to God alone, who is the author of nature; and it is he only can be sensible of the refined ingredients of which the essence of mind is composed.

All that we are capable of knowing is that the human mind does not act, at least, in this world, without a brain. And that Phrenology points out with truthfulness and precision the laws which govern its manifestations I have endeavoured to prove in the foregoing treatise by so abounding a measure of evidence as may to some appear superfluous.

But man is not only a moral, religious, and animal

being; he is also a highly intellectual one. Unlike animals, his moral nature prompts him to look forward to the advent of happiness, as it is calculated to affect himself and others. But even the highest moral qualities are liable to be, indirectly, the instigators of wrong, when the balance of the faculties is not favourably adjusted. For both the moral and animal faculties are blind; and would instinctively and unreservedly act according to the suggestions of the predominant ones, were it not that man's superior intellect enables him to choose between clashing tendencies.

And it is in proportion to the temperate and harmonious exercise of all the faculties that true and unalloyed happiness can be attained. The love of wealth and distinction prompts a man to marry a rich old woman with whose habits and dispositions he cannot sympathise. If he be of a singularly just and generous nature he will act uprightly; but he has shut the gate of happiness against himself. And if the lady, in her folly, happen to consort with an accomplished *rouè*, she would have reason to mourn over the neglect and wasteful extravagance of her profligate partner.

Another takes a wife for her beauty, youth, and accomplishments, but she is without money and he without industry. In course of time they have children, with poverty staring them in the face. Their tempers are soured by constant privations, and few incentives remain for the display of unalloyed domestic affections. Again, a man may be very fortunate in the acquisition of property, but through an inordinate wish to accumulate more, he risks all upon some inviting and promising speculation, and becomes a beggar.

What a comfort it is to know that persons, who are

liable to fall into such mistakes, may be forewarned by a skilful phrenological reading of their characters.

The great advantage of using Phrenology as a medium of choosing a profession for a youth can scarcely be overrated ; and the value of a practical application of it in directing the mode in which the education of children should be conducted has been already frequently alluded to in the course of this treatise.

The late Sir William Ellis and his talented and excellent wife conducted the Hanwell Lunatic Asylum entirely on phrenological principles ; and with the most complete success. So useful, indeed, did they make the poor inmates that almost everything necessary for the establishment was the product of the labour of the pauper lunatics. These enlightened directors of this extensive County Asylum were enabled, through their practical skill in Phrenology, to choose the occupation which was exactly suited to the peculiar capacity of each patient ; and thus was the duty allotted to each accepted and performed as a labour of love, and not as an irksome task. Such labour, eagerly undertaken and heartily performed, excited and sustained in the minds of the patients pleasurable sensations and thoughts, to the exclusion of the insane delusions, by which they would, if left to themselves, be constantly harassed and rendered miserable. And not only was the mind tranquillized by having its energies habitually expended through the dominant and, as yet, healthy organs of the brain ; but an approach to a cure was being made by the inactive state in which the morbid portion was kept. And the fatigue, caused by daily agreeable occupation, was productive of sleep, by which the morbidly excited organs were still further tranquillized. In this way were cured many whose

brains had not become disorganized by long-standing disease. Phrenology, also, taught them how to choose the lunatics to whose hands cutting instruments and other things, by which injury could be inflicted, might be intrusted. And, through its means, when they came to divide the patients into gangs for field labour, they knew how to select those who were sure to be calm and pleased in performing the duty of overseers; but who would be restive and turbulent as subordinates. They would not, for instance, place a lunatic with large Self-esteem, Combativeness, Destructiveness, and Firmness, and small Respectfulness, under the superintendence of another whose head was indicative of the presence of like characteristics. By this judicious and truly humane arrangement did the worthy couple restore to their homes many, who would, under the old inhuman treatment, of which the unhappy insane were so long the wretched victims, have remained incurably miserable. And these blessings were effected, while the county rates were reduced from 14s. 6d. to 6s. 6d. a head per week. Such was the salutary result of the application of the principles of Phrenology to the treatment of the insane.

Under the head of Self-esteem will have been seen how particular kinds of insanity were pointed out at Peckham Asylum, then under the medical direction of the late Dr. Uwins, from a phrenological inspection of the heads of patients.

In order to acquire the best mode of training the youthful inmates of reformatories it is absolutely necessary to overseers to have a practical acquaintance with this science, and if they have neglected to obtain it, it is incumbent on them for the sake of the poor children to learn their moral and intellectual deficiencies through the

advice of some one who has a thorough practical knowledge of the subject. For to strengthen the weak points and hold in abeyance those that are likely to render them vicious by their excessive activity will necessarily be more readily effected by those who comprehend them at a glance than by those who have to wait for their manifestation. Would it not be a satisfaction to the man of humanity to know that a child who has fallen into criminal courses was led by bad example to pursue such courses rather than by inherent profligacy? For then would the hope of reformation be stronger?

In most of these children there is a great want of harmony in the development of the organs of the intellectual faculties. And this want is sure to be followed, as has been already explained, by intellectual indolence, or such desultory and profitless activity as will leave no time or inclination for industrious intellectual habits. This idleness affords scope for the exercise of the lower feelings, the organs of which, through being constantly active, increase in size more rapidly than those of the moral and intellectual faculties, the functions of which are in a dormant state.

A case illustrative of the utility of this knowledge occurred at the gallery of the late Mr. Deville. A child twelve years of age was brought by her father to Deville for his advice. And the first remark this most acute practical phrenologist made greatly surprised the man. "Here," said Deville, "is a double character; and you will have great trouble in the management of it. Your child sometimes will act so as to raise hopes of future excellence, but she will again give you great unhappiness, without your knowing that she is the cause of it. Her intellect is of a superior order, but it will be sometimes

active in devising means for gratifying her inclination for playing mischievous tricks, and then getting tired and disgusted through exhaustion of the organs, she will turn to the gratification of others that have, during the interval, been in an inactive state. The activity of her brain is so great that it must be judiciously restrained rather than encouraged with the view of exhibiting her capacity. Even her religious feelings, which are strong, should not be overwrought."

And what were the facts of this case as described by the father? For three or four weeks together this child, M. S., was the joy of her parents. She accompanied them regularly to church, where she behaved with the greatest decorum. And so attentive was she to the sermon that, on her return home, she would get upon a stool and repeat the sermon in the manner of the preacher. After three or four weeks spent in this way she made some excuse to avoid going to church, and appeared to be entirely altered in her manner. This continued for about two months. In the interval the most ludicrous practical jokes were played. Sometimes the meat for their Sunday's dinner would be missing from the pot when they expected to have it ready for dinner. But they could not find out the delinquent. Shortly before she was brought to Deville the parents were alarmed at night by noises, such as the shutting and opening of doors which were supposed to be locked, and a rattling of tables and chairs. At last they brought two constables to watch, but the marauder, whom some of the neighbours supposed to be superhuman, foiled even the watchers for some time. At length one of the men stood outside a cellar door, and after hearing a great uproar and pursuit, he saw that the door was gently opened, and then out stepped little

Mary, laughing at the consternation she was causing. She then acknowledged that she was the cause of all the annoyances they had suffered, but that she would never act so again. At this time she was on the point of returning to her good habits, and it was fortunate that Deville's advice could be advantageously followed, for after this she was never allowed to exhaust the energies of any set of organs by exercising them too long and too energetically, but she was induced to pay particular attention to the culture of the moral and intellectual faculties.

These injunctions were steadily followed by this child, and the result, as to the growth of the head, was very remarkable. For, on comparing a cast of her head, taken at this period by Deville, with one which he took of her three years after, there was found to be an increase, from the opening of the ear to the surface of the head, of three-eighths of an inch in the size of the moral and intellectual regions, while the region of the animal propensities remained stationary. There was another instance in that collection of growth of the head, between the ages of thirteen and sixteen, which was accompanied by as great a reformation of character.

There cannot surely be a more direct and palpable proof of any truth in nature than the remarkable case which has just been narrated presents of the infinite value of Phrenology in giving a right direction to the education of the mental faculties, especially during the period of youth. And even in the more advanced stages of life there is abundant evidence to shew that changes for the better have taken place in the form of the head, when the conduct had been habitually amended. And, when the intellectual energies have had their full scope

in the right direction, great changes of form have taken place in the forehead.

It is not wise, then, to suppose that the time can with certainty be pointed out when the reformatory process of education ceases to have a salutary effect, if there be a tolerable receptacle for the inculcation of moral principles. But, unfortunately, there are some criminals whose animal propensities are so overpowering, while they seem to be incapable of understanding what the moral sense means, that little hope of their reformation can be entertained. Steventon, who murdered a poor old woman on the high road, near Hereford, and robbed her of tenpence, had the folly to tell what he had done, and was of course arrested, but not before he had made a desperate effort to kill the constable. Morally this man was almost an idiot, intellectually he was very little above that state. And the great absolute and relative smallness of the moral and reflective regions of the head corresponds exactly with his dishonesty and cruel ferocity.

But, when we consider the rapid growth of the brain during the season of childhood, it is not perhaps out of the sphere of possibilities that even this wretched man, were he subjected to such discipline as would ensure the action of the organs of the moral sentiments, to the careful exclusion of everything that would tend to awaken his predominant animal propensities, might thereby be rendered less liable to be goaded on to the destruction of a helpless fellow-creature by his covetous and sanguinary instincts; although a being, with such a brain as his, could never be brought to be a "law unto himself." Such a man was, indeed, through deficiency of moral sense and absence, to an extraordinary extent, of reflective power, unfit to be at large. And so near was his approach

to idiocy, both morally and intellectually, that he could hardly be said to be responsible for his own actions. But when we see a man like Williams, who murdered the poor little Italian boy, in order to sell his body to the anatomists, we have not the same scruples with respect to his responsibility for his diabolical crimes. For he was endowed with circumspection and forethought in a higher measure than most of his class, and knew, though he may not have felt, that he was about to commit a crime of the most direful description. But though he was an artful, cautious, designing villain, he was not without the power of judging between what is right and wrong, as it has been laid down by the laws and customs of society. The wretched Steventon had less power to control himself. Rush again was endowed with higher powers of mind in every way than either of these, but the terrible impetuosity of his passions hurried him on to his well-deserved ignominious fate. But his superior endowments as compared with the other two, increased his responsibility for the crimes he committed.

Ascending in the scale we come to the unfortunate victim of gaming and bad company, John Thurtell, who possessed generous impulses and instincts, to which Rush and the other two were utter strangers, and his responsibilities were, therefore, multiplied. He was not the good and faithful steward of those qualities which, under better auspices, might have steered him safely, notwithstanding the violence of his passions and his weak sense of justice, over the pitfalls by which he was fatally engulfed. A comparison of the casts of the heads of these men affords a satisfactory explanation of the gradations of their guilty dispositions.

The question of responsibility has with respect to

criminals been treated in a most able manner by Mr. Marmaduke B. Sampson, in his *Letters on Criminal Jurisprudence, Considered in Relation to the Physiology of the Brain*, first published in the *Spectator* newspaper, and since reprinted several times.

The value of the practical application of this science to the classification of criminals was demonstrated by Mr. Deville in the year 1826, on board the convict ship "England," bound for Sydney with one hundred and forty-eight convicts. The examination was made at the suggestion of the eminent surgeon, Mr. Wardrop, who did not hesitate to avow his accession to the ranks of the disciples of Gall and Spurzheim, at a time when most of his medical brethren spurned it as the offspring of ignorance and quackery.

The result of this examination is given in a letter from the surgeon of the ship "England" to Mr. Wardrop. "Observe," says Mr. Thompson, "how Deville has hit off the real character of Hughes, and I will be grateful to Deville all my life; for his report enabled me to shut up the malcontents, and arrive here not a head minus, which, without his report, it is more than probable I should have been." This Hughes was noted down by Deville as a man capable of deep-laid plots and ruthless murder. For, when Dr. Thompson said to Deville, "There is one in particular that you have not given me the name of." "It is," said Deville, "a man of the name of Hughes; he is a man of talent, and the greatest scoundrel on board the ship, and he will do you great mischief on the voyage. Keep pens, ink, and paper from him, for he is a man who will be most likely to create a mutiny amongst the convicts." "Now it appears," says Deville in a lecture, "that this Hughes made ink with oxide of iron, with

which he wrote letters on tobacco papers. These papers," he continues, "were preserved and shewn to me. And there is now preserved at Somerset House an account of this transaction." Deville said also, "that a gentleman who was at Sydney when the ship arrived told him that he afterwards saw Hughes tried at Sydney for some crime for which he was hung." "All the authorities here" (Sydney), says Mr. Thompson in his letter, "have become phrenologists, and I cannot get my journals out of their offices until they have perused and re-perused Deville's report."

The pains and penalties which such criminals bring down upon themselves might, naturally, be supposed by the upright and foreseeing to constitute valid checks to restrain their animal propensities. But, unfortunately, such is not the case. It is on early training and education, then, that our hopes of improvement must rest. And, as children are very imitative, good example should be the chief ingredient in every system of tuition. And, to use the words of Burke, "Is, then, example nothing? It is everything. Example is the school of mankind, and they will learn at no other."

In the conduct of education then; in the choice of professions; in the management of the insane; in prison discipline and in criminal jurisprudence, Phrenology is capable of producing the most happy results, in regard to the welfare of individuals and of communities. Nor is there a follower of any art or profession that would not be benefitted by the careful study of its principles. By no other means can the secret springs of human conduct be so readily or so surely fathomed as by those which a thorough practical knowledge of this much abused and greatly neglected science affords—means, the understand-

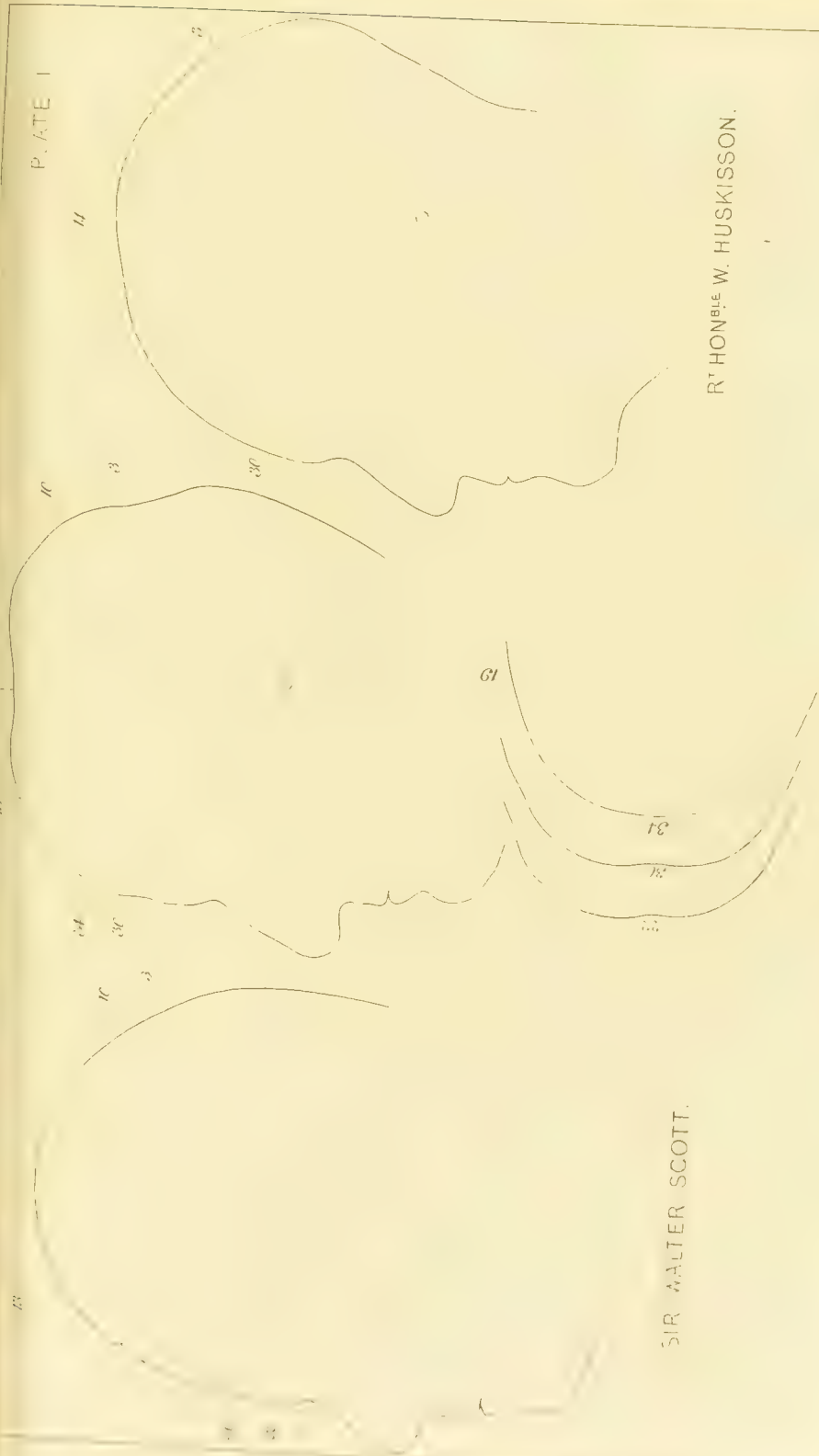
ing of which is not beyond the range of moderate intellectual comprehensiveness. But Phrenology, for having demonstrated the various degrees of power possessed by men of resisting evil, has been thought by some to militate against the existence of Free Agency. But man's capacity for avoiding evil, even under strong temptation, is a fact which is known and felt by all well-organized persons. What Phrenology tends to shew is this—that some persons are endowed with very little free agency; that others, after a painful clashing of motives, are free to resist impulses, which would lead to present gratification, but would be followed by future heart-burnings to themselves and others; and that, again, there are persons, so happily constituted—in whom all the highest attributes of human nature are so harmoniously blended and so nicely balanced, that their career through life is a glory to themselves, and the fruitful means of happiness to others. It is no heresy to say that such noble characters have a greater amount of free agency for good than either of the other two.

To exemplify this it is enough to mention the names of Steventon and Greenacre, as belonging to the first category, and those of Fenelon, Washington, and Sir Thomas Moore as bright ornaments of the last. Why this disparity should exist to plague and puzzle society can only be known to the omniscient Creator of all. To solve the mystery is beyond the limited reach of human understanding. And here again Phrenology is in harmony with Holy Writ. "Nay, but, O man," says the Apostle, "who art thou that repliest against God? Shall the thing formed say to the thing that formed it, why hast thou made me thus? Hath not the potter power over

the clay, of the same lump to make one vessel unto honour and another unto dishonour."

Phrenology teaches that, according to the laws of nature, which is itself but an emanation from God, the "vessels of honour" will be multiplied on earth, and those of dishonour cease, in a great measure, to be reproduced, provided mankind uses the mental faculties bestowed upon them by their Creator temperately and harmoniously. For even the faculties, that are, if left to themselves, prone to fall into evil courses, are harbingers of blessings, whenever they are guided by the qualities of mercy, and righteousness, and wisdom. But should Selfishness gain the ascendant, never can we expect to see overreaching dishonesty and dissimulation, and all the fertile causes of war, swept away from the face of the earth. But such a termination as the last cannot fall within the design of a beneficent Creator.

THE END.



R^T HON^{BLE} W. HUSKISSON.

WILLIAM GODWIN.
(Novellist)

SIR WALTER SCOTT.



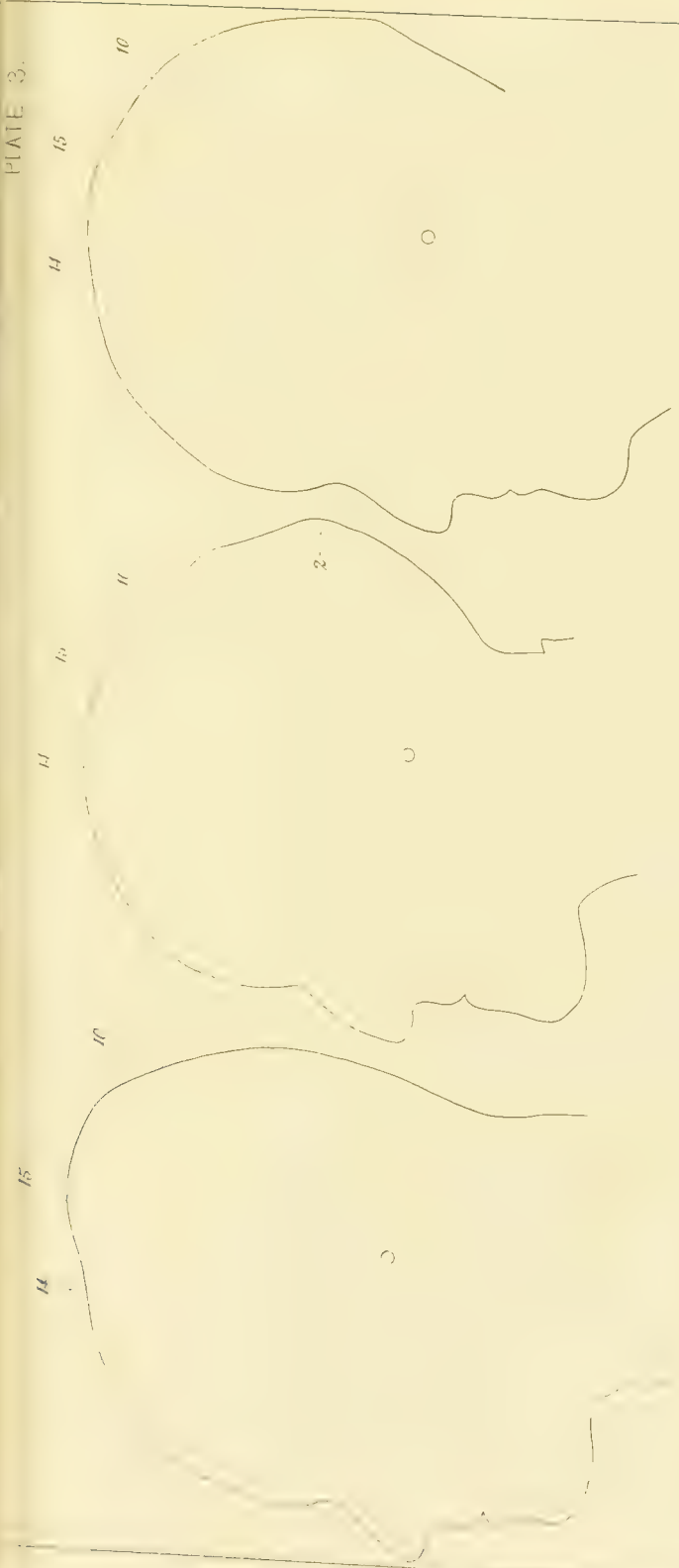


J. B. RUSH. MARKWICK. (Murderer) (Noble Character)



D^R DODD. GEORGE CRABBE. (Poet.)

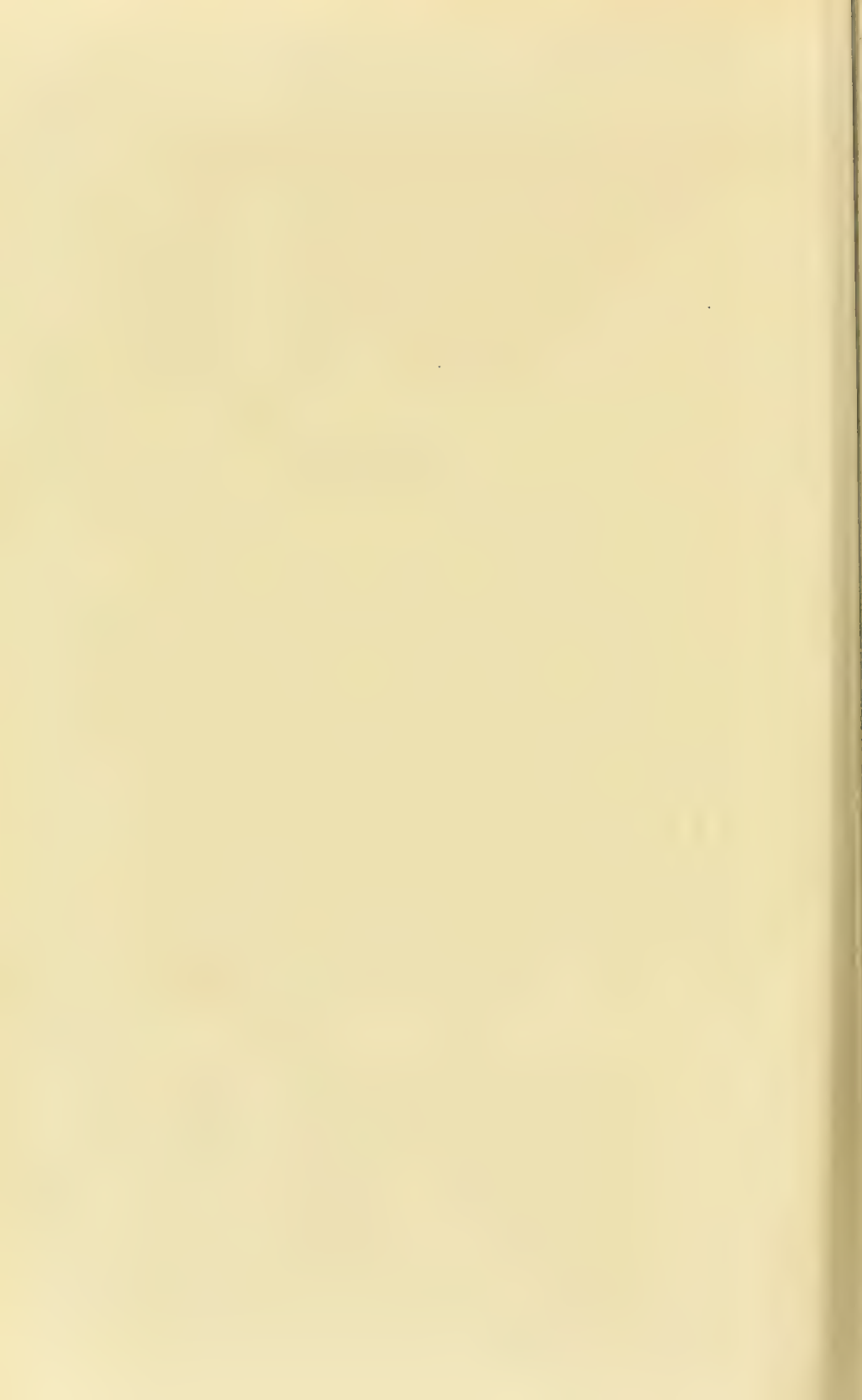


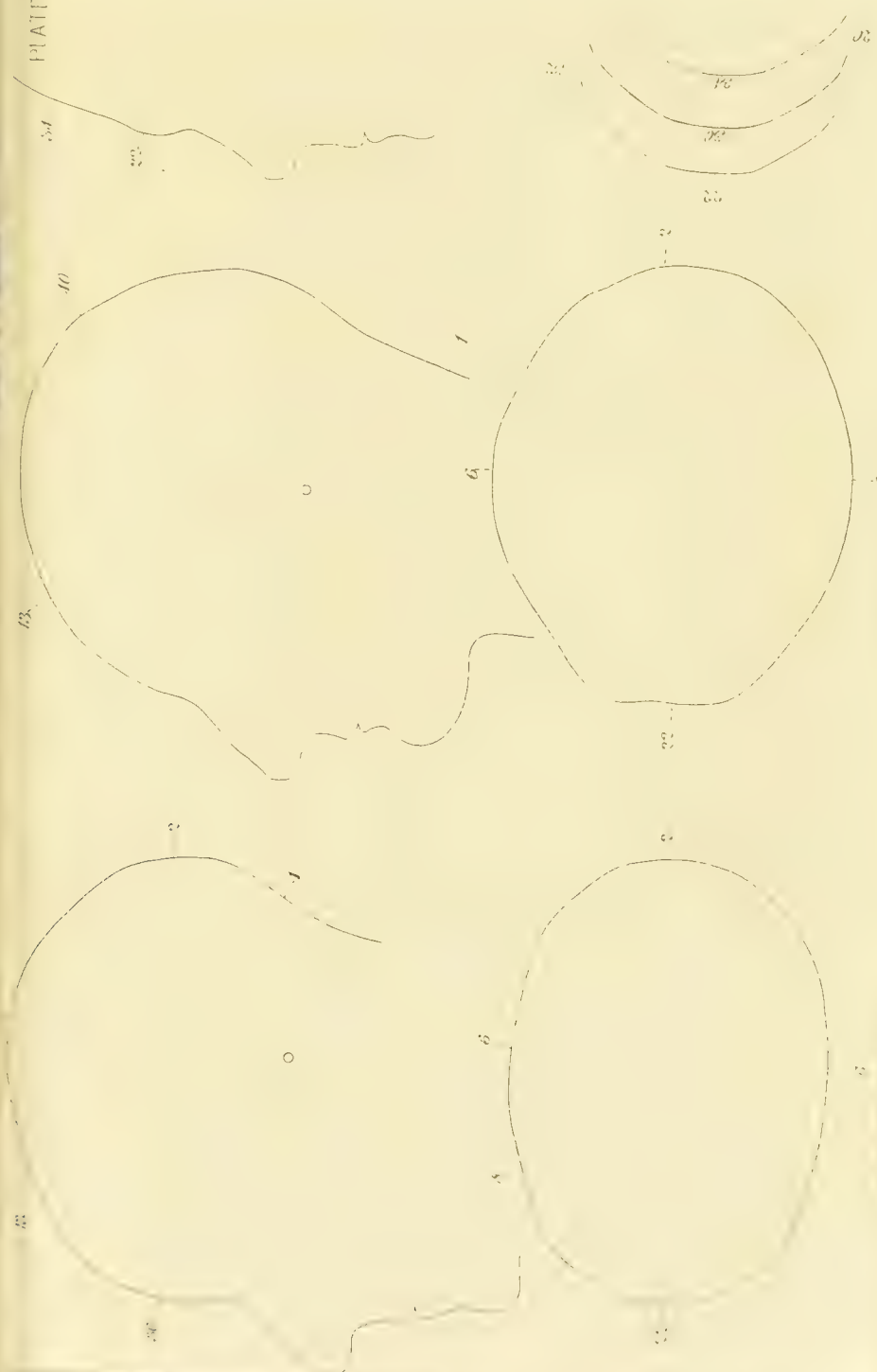


RICHARD CARLILE
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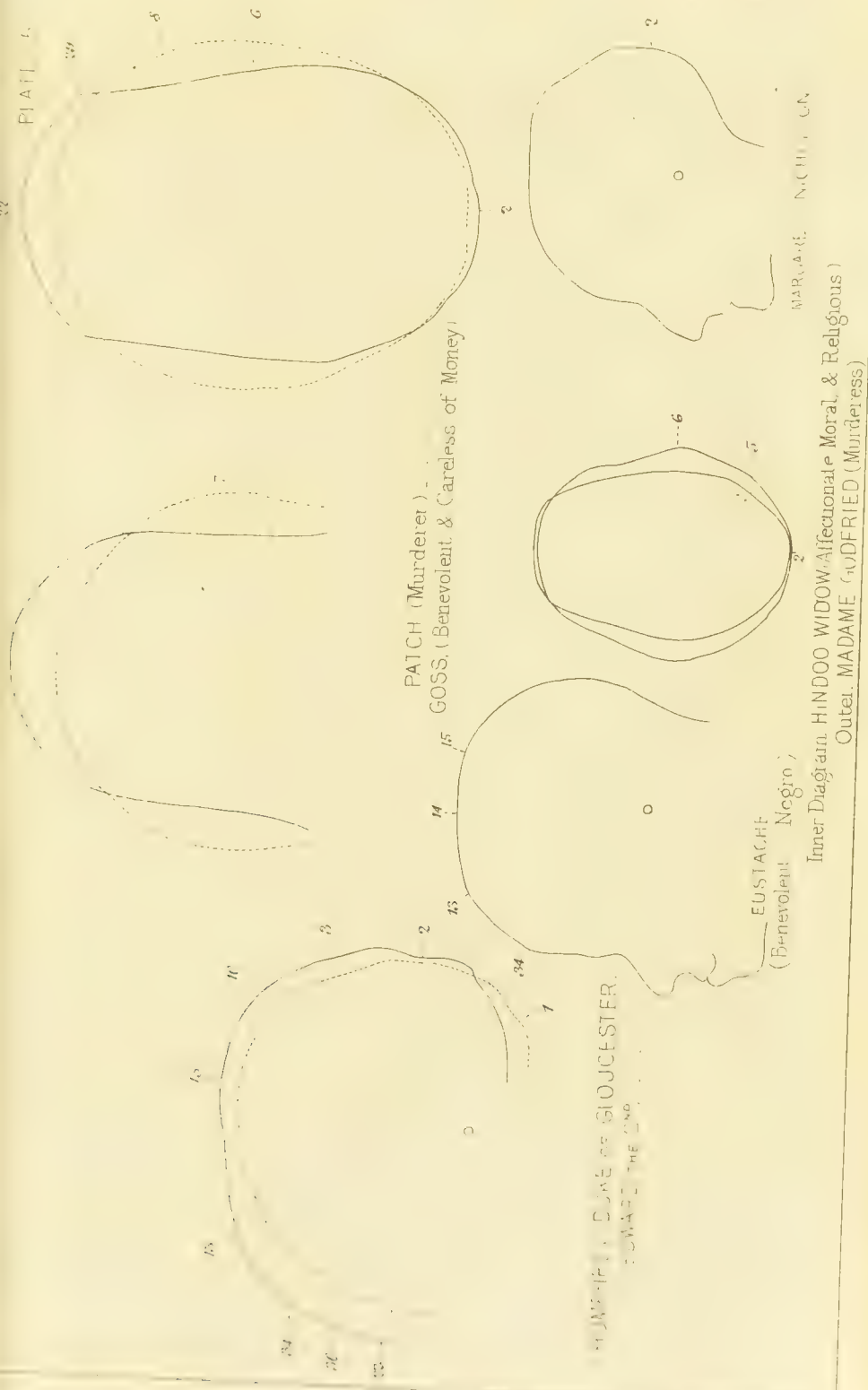
LORD ELDON.
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JOHN ADOLPHUS.
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BELLINGHAM (Assassin)



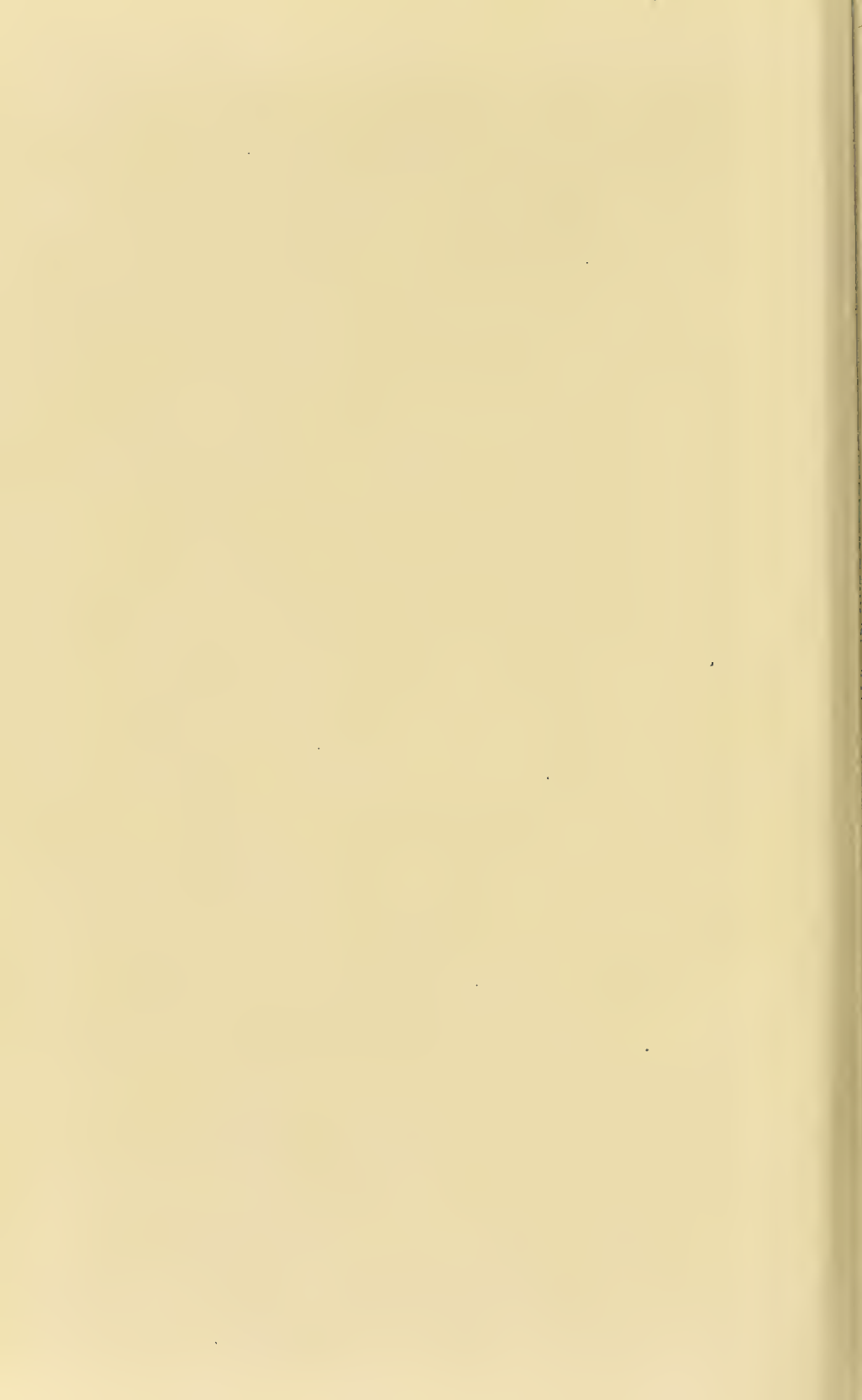
HINDOO WIDOW, Affectionate Moral, & Religious

EUSTACHE (Benevolent Negro)

PATCH (Murderer)

MARQUE

Inner Diagram, HINDOO WIDOW, Affectionate Moral, & Religious
Outer, MADAME GODFRIED (Murderess)

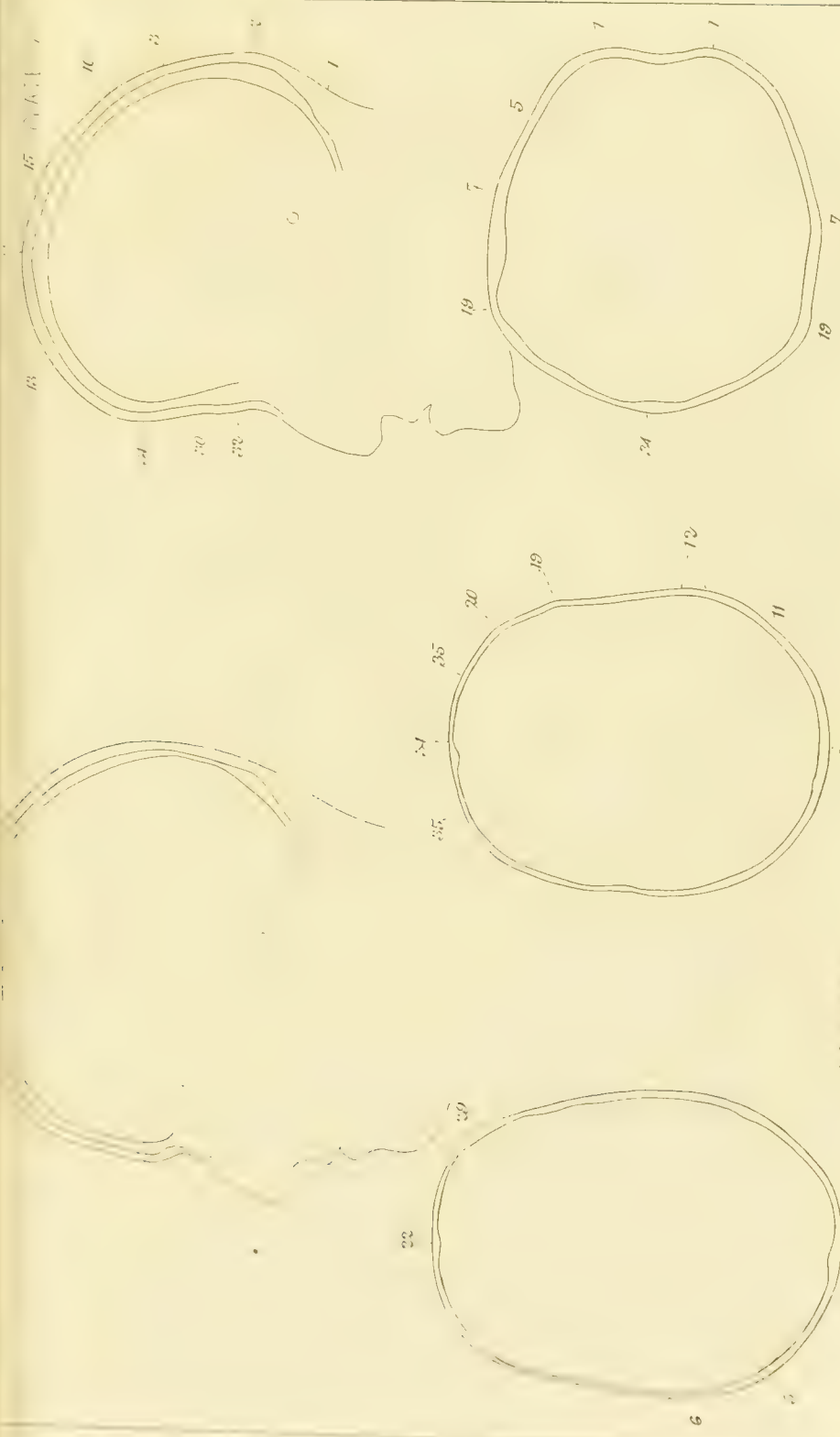






MAUN, E. R.
(An Imbecile)

SECTION
(Improvisation)







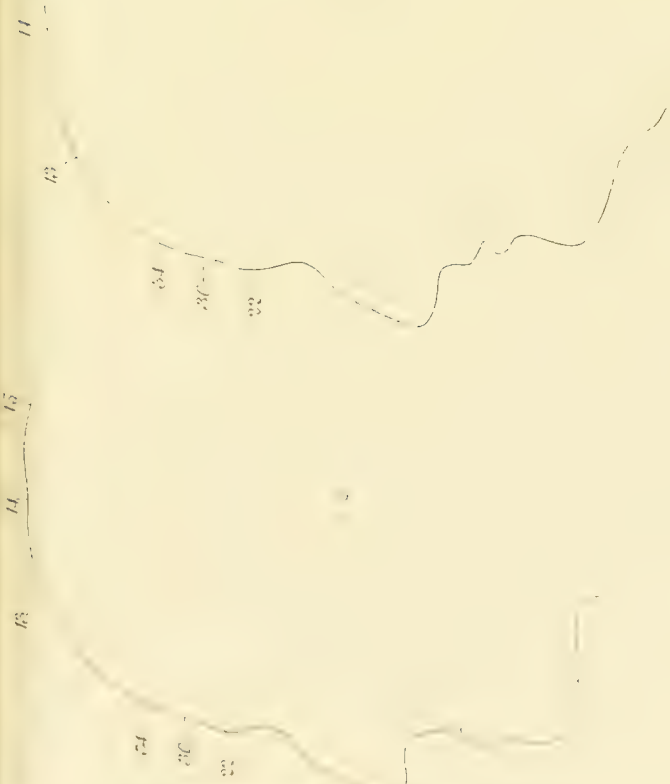
1. *Alb. ...*
2. *Alb. ...*
3. *Alb. ...*

CAPTAIN LYDE
(Large No 3)

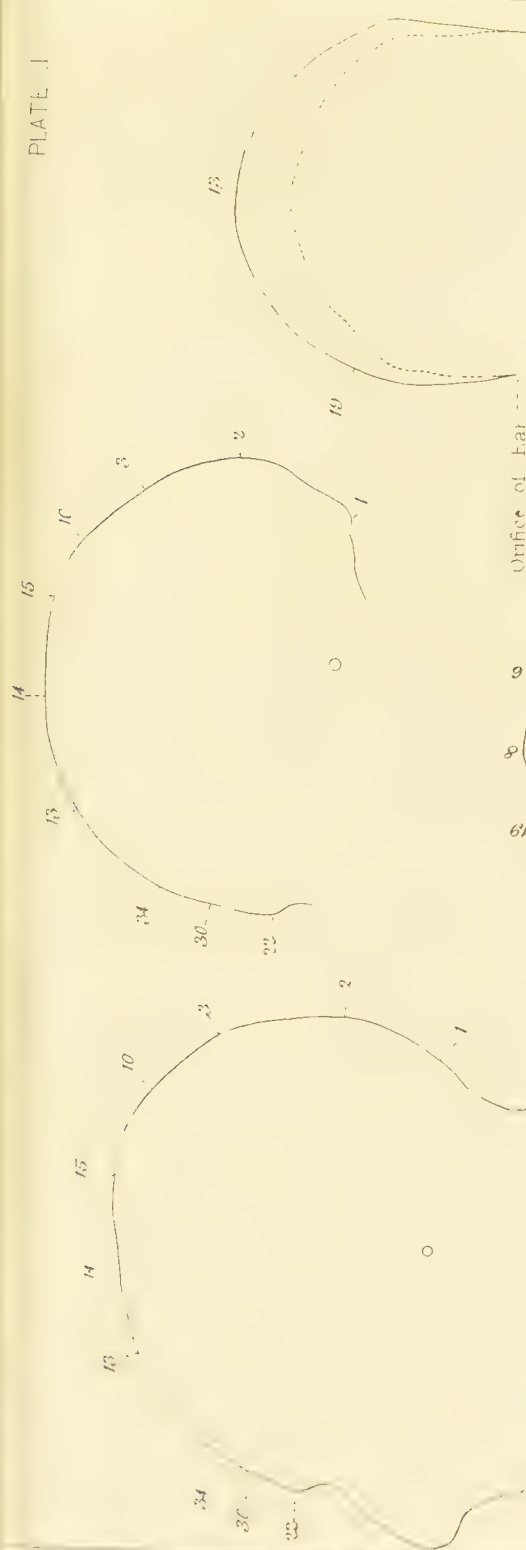
CAPTAIN LYDES, BROTHER.
(Small No 3)

NAPOLEON 127

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